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CLINICAL LECTURES AND REMARKS,

ON

DISEASES OF THE SKIN, VENEREAL DISEASES, AND SURGICAL CASES,

DELIVERED IN 1836,

AT THE

SKIN INFIRMARY,

AND AT THE

JERVIS-STREET HOSPITAL, DUBLIN.

BY

DR. WALLACE,

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PATHOLOGY OF VENEREAL DISEASES OF THE SKIN.

In my last lecture on syphilis, I brought before your notice many facts which authorized the conclusion that the exanthematic or superficial group of venereal eruptions, although possessed of very peculiar characters, does not arise from a distinct morbid poison, but from a modification of the poison which produces the other forms of venereal eruption. I also brought before you facts which demonstrated the source of the modification, or the manner in which it is produced. (LANCET, page 198.)

I proceed now, before passing to the consideration of the other group, to make a few more general remarks upon the exanthematic; and first let me correct a misconception, or rather prevent a supposition, which may probably arise in your minds, in consequence of the terms which I have used when speaking of the exanthematic group The eruptions which belong to it, being, throughout their course in general so superficial, and even when they penetrate more deeply being at first on the surface, I frequently use the name superficial group in place of exanthematic group. It would, however, be incorrect from this to suppose that the exanthematic eruptions never ulcerate, or that they never penetrate and destroy the cutaneous tissue. It is true that varieties of this group of eruptions, which appear very severe, often pass off without leaving the slightest mark of injury of tissue, while the very mildest form of the other group of venereal eruptions is apt to leave after it perceptible cicatrixes. Nevertheless, exanthematic eruptions, under certain circumstances, and more particularly when they present the tubercular form, do ulcerate, and an extensive destruction of tissue often follows. This occasional severity is, no doubt, dependent on a peculiarity of constitution, or perhaps of treatment, and the individual in whom the exanthematic virus causes this severe form of eruption would, most probably, get a still more severe disease from the virus of the other group. Therefore, although ulceration seldom, comparatively, occurs in the eruptions which are included in the exanthematic group, yet that group of eruptions may be accompanied by this process in a severe degree; and it is remarkable, that the ulcer which then occurs can be distinguished only by its mode of origin, or its history, from the ulcer of the other group. The cases of the two females, Toole and Kelly, who were in ward No. 8, and of whom these drawings were taken, will illustrate the positions which I have just laid down. For example, the eruption in Kelly, although of the most severe character, passed off without leaving any cicatrix. Her disease you know belonged to the exanthematic group, while in Toole, whose case belonged to the same group, some of the spots produced destructive ulceration, which could not be distinguished from the ulcers which occur in the other group. She had, you may remember, an ulcer, some inches in diameter, on the outside of her left leg, and another on her right hip. Here is a drawing of the ulcer on the leg, and you see it is quite like this drawing, which was taken from an ulcer which commenced by a pustule.

I have next to point out to you, that to the exanthematic group belongs a great number of affections which have been hitherto described under different names by different writers. In fact, the sivvens of Scotland, the button-scurvy of Ireland, first

described by myself under the name of morulus, in the Transactions of the Royal Medico-Chirurgical Society of London, the yaws of Guinea, the Canadian disease, the mal-de-Scherleivo, the falcadine, and many others, which have been very properly grouped together by ALIBERT under the name of mycosis, are only so many varieties of the exanthematic group of syphilitic diseases. To convince you of this, read the account of these diseases which has been given to us by different observers, compare their history and symptoms with those of the exanthematic group, and you will find that, in the phenomena they present, in the mode of treatment they require, and in the manner in which they are propagated, they have the strongest resemblance to the diseases which form this group. By way of illustrating this position, and thereby demonstrating the generalizing influence of the views which I am unfolding to you, let me say a few words on

Sivvens, or Sibbens.

The best accounts which we have of sivvens are those written by Dr. Gilcrist and Dr. Adams. Dr. Gilcrist has published a paper on the subject in the third volume of the "Physical and Literary Essays" of Edinburgh, and Dr. Adams has given a chapter to it in his work on morbid poisons. Read what these authors have said of this disease, and you will find that their descriptions, so far as they go, are descriptions of the exanthematic group of venereal eruptions. For example, the sivvens attacks the throat, mouth, lips, and inner surface of the cheeks, in precisely the same manner as the exanthematic group of syphilis attacks the same parts. Hence, Dr. Gilcrist, when speaking of the symptoms of sivvens, says, that "frequently there was a thrush, with white specks or sloughs upon the roof of the mouth, and inside of the cheeks and lips, which commonly showed itself at the corners of the mouth, in a small rising of the skin, of a pearl or whey colour, where likewise a very small excrescence or fleshy sprouting, like a rasp, often appeared." In another place he speaks of a "superficial ulceration, either raw or covered with a white skin." Is this not an exact description of the state of throat which you almost daily see in the exanthematic form of syphilis? What is the language which I generally use in describing these appearances to you? I say that in the exanthematic form of syphilis there are cracks at the angles of the mouth; that the surface of the tonsils, or of the palatine arches, or of some other portion of the buccal mucous membrane, looks as if painted with milk, or as if touched with the nitrate of silver; and I call the elevations which occur on the palate and surface of the tongue, condylomatous elevations. Thus the mild form of disease of the throat accompanying exanthematic syphilis is precisely the same as that which accompanies sivvens. This is not, however, the only form of diseased mouth and throat met with in sivvens; phagedenic ulcerations may occur. Dr. Gilcrist says the uvula has been destroyed by it, and Dr. Adams has related a case of sivvens in which there was the loss of the uvula, and perforation of the soft palate. Does this destructive ulceration occur in the exanthematic form of syphilis? You know it does. You have seen such cases, although they are much more rare than the milder cases; but, as I have already told you this morning, severe ulcerative action occasionally takes place in exanthematic syphilis. You remember that an example of it occurred the other day in the case of Conroy, whose soft palate was perforated by [illegible] ulcer, and we had [illegible] in whom the ex[illegible] the throat c[illegible] which it pr[illegible] fauces.

Sivvens [illegible] matic syph[illegible] voice, that [illegible] whisper. [illegible] ever, owin[illegible] passes off [illegible] manent defe[illegible] ago in the [illegible] truth. One [illegible] other in a fe[illegible] lost their voices, [illegible] scarcely be heard; [illegible] the action of mercury, [illegible] restored to both in the course of [illegible] few days. In neither case was there any perceptible affection of the throat, except a very superficial disease of the palatine arches.

Does sivvens attack the skin? It does, and in precisely the same manner as the exanthematic group of syphilis. Dr. Gilcrist says, speaking of sivvens, "the whole surface of the body appeared mottled, or fleaked, of a dusky copper colour or dirty red." In another place, speaking of the same disease, he says, "a cluster of small pustules comes out" (every ulceration on the cutis was then called a pustule), "the skin grows dry and peels off, leaving a new tender skin underneath, and this will happen a great many times." Again, he observes, "Inflammation, soreness, and excrescences about the fundament, seemed very frequent." Thus, you remark, that this writer has accurately described as symptoms of sivvens, three of the most frequent varieties of the exanthematic group of cutaneous affections,—the rubeoloid eruption, the scaly tubercle, and the condylomatous excrescence.

What is the comparative state of the osseous system in exanthematic syphilis and in sivvens? You have been informed by

me, that osseous affections do not in general accompany the milder forms of the exanthematous group of venereal symptoms, but that they are frequent in the tubercular or more severe forms. What is said upon this subject by the writers on sivvens? We find a disagreement respecting it. One writer, Bell, says that nodes and caries occur in sivvens, while Gilcrist says, that the bones are not affected in this disease. I conceive that this disagreement supports the opinion, that sivvens and the exanthematic group of venereal eruptions are similar or analogous; for it is far from unlikely that both these writers recorded exactly what they saw, and from the situation in which Gilcrist practised, it is probable that the milder forms of sivvens occurred in general to him, and, therefore, that he had not an opportunity of witnessing the affections of the bones; whereas Bell practised in a large city, where the disease was, most probably, seen on a more extensive scale, and in its severe forms, and, therefore, the chance of meeting with cases of it, which were attended by osseous disease, was much greater. Hence Bell have seen examples of sivvens in which bones were affected, when Gilcrist did

You thus see that there exists a most striking resemblance between the symptoms of sivvens, and those of exanthematic syphilis, when these diseases occur in the mouth, on the skin, and in the bones. Had we time to compare these affections in a more particular manner, we should still more forcibly see their resemblance. For example, the one, like the other, may be propagated by simple contact, or by the use of the same utensils, as well as by the promiscuous intercourse of the sexes. Indeed, the sivvens are said to owe their extension rather to the indiscriminate use of the same vessels in drinking, or of the same pipe in smoking, than to the intercourse of the sexes. Yet it is remarkable that, although sivvens may not have been contracted by sexual intercourse, one of its most frequent seats is the organs of generation. This, again, is another proof of the analogy between sivvens and exanthematic syphilis, for you know that the secondary symptoms of the exanthematic group of syphilitic eruptions have a remarkable propensity to appear on the genitals and round the anus, in preference to any other part; and even when they occur over the general surface, they present their more severe characters on the pudenda. Thus it is, that you will sometimes observe aggravated cases of condylomata at the anus, or on the scrotum, or labia, with scarcely a trace of symptoms on any other part. Lastly, the mode of treatment which has been found most efficient in controlling sivvens, is that which controls most effectually the exanthematous form of syphilis. The influence of mercury is all powerful in both. The treatment, in fact, of the one bears the greatest resemblance to that of the other.

Is not the similitude between sivvens and the exanthematic group of venereal diseases, therefore, most striking? You will find the same analogy or resemblance between the same group and the other diseases which I have already named, and which are often called varieties of epidemic syphilis, if you will take the trouble of comparing together their symptoms. It is not necessary for my purpose to say more at present on these analogies. But I shall perhaps have reason to refer to the subject again, when speaking of the varieties which each group of syphilitic eruptions presents. Enough, however, has been said, to show the importance of the generalization to which the opinions and facts which I have advanced necessarily lead. Let us now consider the second, or what I call the

Pustular Group of Venereal Eruptions.

Suppose you were introduced to an hospital containing a large collection of patients labouring under venereal eruptions, and suppose you abstracted from the whole number all those varieties of eruption which belong to the exanthematic, or that group whose general characters we have been considering, what would be the characters of the residue? Would they have much resemblance to each other, or would they form a heterogeneous mass? I can tell you, that you would find them remarkably analogous to each other. You would, in fact, discover that they were all of the pustular form. Here is a very large, but indiscriminate collection of drawings, which may be viewed as representing a large collection of syphilitic patients. Remove from among them all those which represent the varieties of the exanthematic group, and you will find that the residue represent only pustular eruptions. Let us next arrange in a series or line, these drawings of pustular disease. (Here Dr. Wallace arranged in a row a great number of drawings.) They form, you observe, when so arranged, an extended chain, as it were, the beginning and the ending link of which are very dissimilar in appearance to each other; but compare the neighbouring links, and you find that their similitude to each other is so exact that you cannot do much more than distinguish them from each other. Look at this drawing, which is at one end of the chain, and which represents an eruption of small pustules. You remark that each spot is not larger than a pin's head; yet the eruption has the purely pustular character. Look at this drawing, which is at the other end of the chain, and represents the larger or severer form of pustular eruption, and you remark the great size of the spots; many of them are little less than half an

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Sivvens sometimes, as well as exanthematic syphilis, so destroys for a time the voice, that the person can speak only in a whisper. This state of voice is not, however, owing to destructive ulceration, for it passes off without leaving behind it any permanent defect. You had two cases not long ago in the dispensary illustrative of this truth. One case occurred in a male, the other in a female. Both had so entirely lost their voices, that their articulation could scarcely be heard; both were submitted to the action of mercury, and the voice was restored to both in the course of a very few days. In neither case was there any perceptible affection of the throat, except a very superficial disease of the palatine arches.

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inch in diameter. You can, in fact, scarcely conceive two cases more unlike than those which these two drawings represent,—yet they are both pustular.

The varieties of pustular eruption do not, however, differ from each other merely by the size of the pustule, or, more properly, of the ulceration which follows the pustule, but in several other respects, such as number, situation, arrangement, colour, and so on. Thus, sometimes the pustules are, as in this drawing, so numerous that the whole surface is spotted thickly with them; sometimes, on the contrary, the entire eruption may consist of only three or four spots, as in the case from which this drawing was taken, and between these extremes there exists every variety. The face is the part which suffers most in some cases, as in this; in others the trunk, as in this; and in others the extremities, as in this. The pustules, in their mode of arrangement, are sometimes scattered, and sometimes grouped. Their colour is not less various. It is sometimes a light red, sometimes a reddish brown, and sometimes more or less livid. These varieties in size, situation, colour, and arrangement, have so great an influence in modifying the aspect of the eruption, that different cases appear on a superficial view to have scarcely any resemblance to each other. Yet, upon examining them with accuracy, you will always detect the proper pustular form, that is, you will discover that they possess their essential character. Take this drawing, which represents the case of McGouran, and this, which represents the case of Maguire. See how extremely unlike they are to each other in almost every respect, yet they are both pustular. Now, place between them this drawing which represents the case of Hacket. You remark that it so completely performs the part of a connecting link, that you can easily conceive the existence of varieties which would form a gradual transition from the one to the other. Indeed, representations of such varieties are lying before you. Do you not see the extreme value which drawings have been to me in this inquiry? In fact, without them I could never have investigated the subject with success. This cabinet of drawings is as it were my "hortus siccus."

I have hitherto been using the word "pustule," presuming that you are acquainted with the precise meaning which I attach to it, and with the characters or circumstances in which it differs from the exantheme or rash, which is the name I give to the element of the exanthematic group. But, to prevent the possibility of misconception, it will perhaps be well to say two or three words on

The Distinguishing Characters of the Exantheme, as compared with the Pustule.

In the exantheme or rash there is a state of congestion, or at least an accumulation of the circulating fluids. This accumulation causes in general an alteration in the size and in the colour of the spot, which is then for the most part more red and more tumid than natural. The former state, or increased redness, is not, however, essential, for in some varieties of rash or exantheme, the spot is rather paler than natural, as, occasionally, in urticaria. When this turgescence, which distinguishes the exantheme, has lasted a longer or shorter time, it often ceases, or subsides, and the part returns to its original state, this decrease in colour and in size being in general attended by desquamation, or an exfoliation of the cuticle. All these appearances and changes you may daily remark in many forms of exanthematic cutaneous disease, as in measles, in nettle-rash, in roseola, and several others. When an exantheme is much raised, and persists for a considerable time, it is not unfrequently called a tubercle; when the surface of the tubercle becomes a secreting surface, it is named a fungus; and when it undergoes that process of softening and loss of substance which truly constitutes ulceration, it is called an ulcer. Hence, the exantheme may end in resolution, or in desquamation, or the detachment of the cuticle, including vesication; in induration, in fungation, or in ulceration; and all these terminations are frequently presented by the varieties of the exanthematic group of venereal eruptions: you observe them all illustrated by these drawings. Such then are the general characters of the exantheme, or the element of the exanthematic eruptions. If you are acquainted with the classification of cutaneous diseases, which, proposed by PLENCK, and afterwards extended by WILLAN, has been blindly adopted by a large number of writers on diseases of the skin, you will observe, that the exantheme, as defined by me, includes many forms of cutaneous disease which have been considered elementary by the authors of this classification. For example, it includes, besides the wheal and fungus, which have not properly a place in WILLAN's arrangement, the macula, the tubercle, the rash, the vesicle, and the bulla, and these form the characters of five out of eight of his orders. When you are better acquainted with the subject of cutaneous diseases, you will see the impracticability of making these differences of appearance the ground of distinguishing orders. They may be used, as I have done, to distinguish varieties, but no farther. Indeed, sometimes they are not sufficient for even this, for the very same eruption often presents on different parts of the body, at the same moment, all these various appearances, and at times you will observe them to be presented successively by even the same spot.

Were there no other mean of demonstrating the impracticability of classing diseases

of the skin according to the plan of Dr. Willan, and his followers, than that afforded by venereal eruption, this would be amply sufficient. In fact, among venereal eruptions, we remark every one of the forms of cutaneous appearance which have been considered elementary; hence, if these diseases were classed, in common with other eruptions, according to their forms, their varieties would sometimes be placed in different orders; some would be placed with measles, some with scald head, some with leprosy, some with itch, and so on. It is surprising that this classification should have held a rank for so long a time; and while I admit that the descriptions of cutaneous diseases given by its authors may have assisted something in improving our knowledge of skin diseases, I am quite certain that the classification itself has, in the same proportion, retarded the progress of cutaneous pathology. I shall not enlarge now farther on this topic, as I shall often have more appropriate opportunities of alluding to it. To return.

Now what are the characters of the pustule as compared with those of the exantheme. When a pustule commences, we find that the part affected presents a state of turgescence, and hence redness, and increase of size, as in the exantheme; so that the first stages of the pustule and of the exantheme may be said to be much alike. In the subsequent stages the characters are, however, different. The changes which the exantheme undergoes, are principally changes on its surface; hence, desquamation, vesication, fungation, and ulceration; but the changes which the pustule undergoes occur in the centre of the sphere, as it were, which the pustule represents. These changes consist in the softening of the centre of the part affected, the consequent formation of a liquid substance named pus, and the production of a minute cavity, quite analogous to that cavity which is called an abscess. The matter thus formed is sooner or later discharged, and an ulcer is produced, or, the matter becomes indurated, and forms a scab, which may be either thrown off, and discover an ulcer, or it may adhere until the surface underneath is healed.

From what I have said, it appears that the great difference between an exantheme and a pustule is, that the latter has a much more decided tendency than the former to assume the process of liquefaction, or what is commonly called suppuration. In fact, in every pustule this state of softening or suppuration occurs, whereas it rarely takes place in the exantheme, and in the pustule it commences in the centre, while in the exantheme it commences on the surface. Such, therefore, are the anatomical differences of the pustule and of the exantheme.

Now, if we reflect on the characters which distinguish the exantheme from the pustule, and compare the different varieties of these states together, we find that some of the varieties of the exantheme approach nearer than others to some of the varieties of the pustule. In the first place, those exanthemes which ulcerate, differ from pustules, principally in the situation in which the ulcerative process commences. In the pustule it commences, as I have said, in the centre of the sphere which the spot represents, while in the ulcerating exantheme it commences on the surface. In the second place, those varieties of pustule in which the matter, small in quantity, becomes concrete, and adheres to the surface of the ulcer until it be healed, and then falls off a scab, approach in their character to the scaly exantheme. In the third place, there are pustules in which the process of liquefaction commences so near the surface, that were it not for the existence of this process in the very first stage of the diseased spot, they might be taken for vesicles, or bullæ. Such pustules, therefore, approach in their character to the vesicular or bullous exantheme. Lastly, those varieties of the exantheme which cause a vesicle or bulla, have always a greater tendency to ulcerate than those which end in resolution, or, than those which cause fungation, or desquamation, and therefore they approach to the character of the pustule. It thus appears, when we consider the anatomical characters of the different varieties of the pustule, and of the different varieties of the exantheme, that these elementary forms of disease approach each other by certain of the varieties of each. The vesicle or bulla, or the ulcerating tubercle, forms the passage from the exantheme to the pustule, while the bullous and indurated pustule forms the passage from the pustule to the exantheme; therefore, although all the varieties of the exanthematic and pustular groups present characters by which they can be distinguished from each other, these distinguishing characters are more fully developed in some varieties than in others, and it is by comparing the extremes of each group, that their dissimilarity will most strikingly appear.

Now, when we reflect on the source or cause of the difference between the virus which produces the exanthematic, and that which produces the pustular groups, it will be evident that the approximation of character which I have pointed out between certain varieties of the pustule and certain varieties of the exantheme, is just what might have been expected; and, on further reflection, it will be admitted that its existence adds considerably to the support of the doctrines which I have been unfolding. For example, as the virus which causes the exanthematic, and that which causes the pustular group, were originally the same, and as their difference results from a differ-

ence in the age of the disease which has produced them, it is clear that this difference will vary in degree, and, consequently, varieties will necessarily occur in the effects which result from the poison, either locally applied or when absorbed.

To be more explicit. Every primary syphilitic sore is constantly varying its state or stage, and the nature of the poison which it produces is as constantly undergoing modification. Mr. EVANS found that the poison taken from a primary pustular sore during its earlier stage, produces, when inoculated, a more severe form of ulcer than when taken from the same sore in a more advanced stage. My own experiments have verified this truth, and have further demonstrated that the longer a primary pustular sore has been in existence, the more nearly will the character of the poison which it secretes approach to that of the modified or secondary poison. Hence the form of the eruption which will result from a pustular sore, may be expected to vary, within certain limits, according to the stage of the sore whence the poison was obtained, as well as according to the stage in which the ulcer may be when absorption takes place. Hence, if the poison be derived from a sore in its ulcerating stage; or, if absorption occur when the sore is in this stage, the eruption will be more decidedly pustular than if absorption had not occurred until the sore had advanced into its stage of granulation or cicatrization, or than if the poison had been derived from an old sore. The modification, however, produced in the poison by the age of the primary pustular sore whence it is obtained, is never so great as to cause by its absorption an exanthematic in place of a pustular eruption. It may cause those modified pustules of which I have spoken as being the transition to the exantheme; but it will not cause the exantheme itself, at least I have never seen the exantheme result from any form of the true primary pustular sore.

If the matter of the primary ulcer can be modified by the age of the sore so as to cause a variety in the nature of the disease which it shall produce either by its direct application or by its absorption, we may freely presume that the matter of secondary sores should undergo analogous changes, and hence that the older the secondary matter, the further removed from the pustular disease will be the effects produced. Thus, when I shall speak of the *morbus*, or that variety of disease which has got the name of button-scurvy, I shall have to point out to you that in it the virus has been so modified that it has lost the power of causing any form of syphilitic disease except the fungous, and this is the form which is farthest removed from the pustular. It has also lost the power of contaminating the osseous or fibrous system, or perhaps the mucous membranes. The virulence of the poison is, therefore, in the purely fungous variety nearly, exhausted.

I have still to mention another series of facts which tend to confirm my views as to the cause of the varieties presented by syphilitic eruptions. In the first place, a relapse of a venereal eruption is not an unfrequent occurrence. That is, an individual who has had one crop of eruptive spots, may, after a longer or shorter time, and after the first crop has faded away, get a second crop. Now, on such occasions, although the second or third crop is in general more or less the same in character as the first, though perhaps different in severity, a modification sometimes occurs; and, so far as my observation has extended, the form of the second crop, when modified, is more exanthematic than that of the first crop. In the course of the last winter we had several cases which demonstrated this position. Let me recal to you those of Kelly and Nicholson, and we had none which showed the converse. In the second place all pustular eruptions have a disposition as they advance in standing, to become less and less pustular; and all exanthematic eruptions have, from the same cause, a tendency to remove themselves farther from the pustular character. Thus, an eruption at first purely pustular acquires by degrees more and more the scaly character which is an exanthematic character, and, often, after a time, can scarcely be distinguished from an eruption which was originally scaly. Hence, an eruption which was clearly pustular when it commenced, may so completely lose its pustular character as to pass for an originally exanthematic eruption. From the same law the exanthematic eruptions become gradually more fungous, or farther removed from the pustular character. All these facts lead to the same general conclusion, that the influence of the system is to convert the original pustular disease into the exanthematic.

The views which I have now unfolded to you not only show the relationship of each form of eruption, and the cause of the varieties which syphilitic eruptions in general present, both of which are very important considerations with every man who wishes to understand what he sees, but they also unfold the means of distinguishing from each other varieties of disease which require to be treated in very dissimilar manners, although they proceed from the same source, and have hitherto been confounded together. It will be my object in future lectures to point out to you the particular cases or facts upon which this conclusion has been formed. I shall not, therefore, anticipate further than to observe that the exanthematic group requires a system of treatment different from the pustular, and that according as the varieties of one group approach those of the other, their treatment the more nearly corresponds.

OBSERVATIONS ON THE

TUBERCULAR MENINGITIS OF CHILDREN,

WITH PRELIMINARY REMARKS ON

HYDROCEPHALUS.

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"Homo, naturæ minister et interpreter, in naturæ ordine tantum scit et potest quantum observaverit, nec amplius scit aut potest."—*Bacon. Nov. Organ.*, lib. 1, c. 1.

The disease to which we have ventured to give the name of "tubercular meningitis" (*meningitis tuberculosa*), is but a form of that affection which is commonly known under the name of "acute hydrocephalus;" or, to speak more strictly, the new term expresses the condition of the cerebral membranes which accompanies acute hydrocephalus in a vast majority of cases, and probably constitutes its pathological character. We are not advocates for multiplying terms in medicine, especially in the case of a disease which has already so often changed its name; but whenever pathological anatomy makes any important advance towards clearing up the nature of an obscure disease, we think it justifiable to mark that advance by an appropriate term, which expresses the most essential circumstance of the fact discovered.

Acute hydrocephalus is perhaps the most fatal disease which attacks infancy. Whytt, Watson, Fothergill, consider it as almost invariably mortal, but several modern physicians form a more favourable diagnosis. Dr. Copland says (*Dict.* Part 3, p. 668), "If recognised early, a large majority of cases will recover, and even in the most advanced period, the patient should not be despaired of." We regret to say, that our experience on the subject is totally at variance with the opinion of this respectable practitioner. During an attendance of three years at the *Hopital des Enfans Malades*, we have seen more than forty cases of this disease, and only a *single* recovery; yet we can bear testimony to the readiness with which Messrs. Guersent and Baudelocque detect its earliest symptoms. The observations of gentlemen who have attended the same hospital before or with us, confirm this unfortunate result. M. Rufz, interne at the *Enfans Malades* during the year 1833, observed fourteen cases, *all* of which terminated fatally; but several of those were probably comprehended in the series we observed at the same time; of ten cases reported by the same gentleman in the year 1832, only *one* recovered. M. Gerhard mentions thirty-two cases, *all* of which terminated in death, but six of these were communicated to him by M. Rufz. During his internat at the *Enfans Malades* in the year 1824, M. Senn observed twelve cases without a single recovery. In the year 1818, Professor Duges of Montpellier, then interne at the same hospital, observed eighteen cases without a recovery. These examples are sufficient to prove the extreme *mortality* of this disease, where an accurate diagnosis is formed.

As to its *frequency*, we have very few data of any value on which an accurate estimate can be formed. The greater number of writers content themselves with vague generalities upon this point, which is left unnoticed by the authors of "Acute Dropsy of the Brain," and "Hydrocephalus" in Copland's Dictionary and the Cyclopædia, the only English works of authority to which we have access at present. The results obtained from an inspection of mortality bills are evidently very uncertain, but they are the only means we possess of ascertaining the relative proportion of cases to a whole population. In Berlin, the number of deaths before the age of fifteen for the year 1835 was 3477, and of these, 257 died from acute hydrocephalus, or inflammation of the brain; that is, one for 13.529. In the year 1833, the deaths below fifteen were 4009; of these, 196 were from cerebral inflammation, or hydrocephalus; one in 21. The official journal states the number of deaths for the whole Prussian states during the year 1833 to be 413.894, and the number of children who died of hydrocephalus as 36.790.* The results furnished by the registers of institutions appropriated to the reception of children, though on a small scale, are much more accurate. In a review of the diseases treated at the children's institution at Vienna, we find, that in 56 deaths, 9 occurred from hydrocephalus.†

At the clinique of Bonn, during three years, from 1831 to 1833, of 62 children who

* Med. Zeitung. 1834, No. 38.
† Med. Chir. Zeit. 1827, Bd. 11, s. 221.

died, we have 12 dead from acute water on the brain.*

In 737 cases of children labouring under various diseases, and submitted to the examination of M. Rufz, during the year 1832, we find ten cases of this disease.† Of 914 cases admitted into the female wards of the same hospital during the year 1818, 18 were affected with acute hydrocephalus; or 28 in 1651, giving a proportion of 1 to 59 of the cases admitted. Alison reports, from the registers of the Edinburgh New Town Dispensary, that of 201 children below the age of fifteen, 40 died of hydrocephalus, and from another list, drawn from the register of the Universal Dispensary for children, 8 deaths occurred by hydrocephalus in 45.‡ This is all we have been able to find in authors upon this point; the results can only be considered as approximations to the truth, but they may serve as the first steps to more strict and accurate inquiries.

Age; Sex: Season.—Many writers consider that girls are more subject to this disease than boys, but we find in their works little more than general and vague assertions, unsupported by proof. Dr. Copland says, hydrocephalus is more frequent in boys before the age of ten, and reports from Cheyne that it is more frequent in girls after the same age; but we are ignorant on what calculation this is founded; it is probably more the expression of a reminiscence than a fact. To determine this point, it would be necessary to observe simultaneously the number of cases which occur in the boys' and girls' ward at the *Hopital des Enfans* during a given period; until this be done, we can only arrive at approximations. Thus, in the year 1815, the number of girls affected with hydrocephalus at the *Enfans Malades*, was greater than that of the boys, although the male ward is the larger,§ while, in the year 1817, the number of cases was exactly the same for both sexes. In 209 cases collected by M. Coindet at Geneva, we find 104 boys and 105 girls.‖

* Med. Zeit. 1834, l. c. Fred. Manse.

† Archives Generales, 2nd series, t. 1, p. 217.

‡ Mem. of the Med. Chir. Society of Edinburgh, vol. 1.

§ Duges. loc. citat., p. 166.

‖ Brachet, p. 36. We were unable to procure the work of M. Coindet.

Season.—It is generally said that hydrocephalus is most frequent during summer, but the season seems to exercise little influence on its development. In the eighteen cases observed by Professor Duges, we find two in January, two in June, two in November, three in May, three in July, four in Sept. In M. Rufz's ten cases, in January, one; May, four; June, two; July, one; August, two; October, one. In the twelve cases collected by M. Senn—January, one; March, one; April, one; May, two; June, one; July, 111; October, 11. In the cases we have collected:—March, one; April, two; May, one; June, six; July, five; August, five;* September, three; October, one; but these numbers should not be taken into account, as our cases were not observed consecutively, and in the same year.

Age.—At what age are children most subject to this disease? If we consult authors on this subject, we find the same vague generalities which throw a shade of uncertainty over so many other points of medicine. Dr. Copland considers the disease to be most frequent between the ages of one and eight, but this period, embracing half of childhood, is rather too general. The author of the article "Hydrocephalus," in the Cyclopædia, says, from two to five; the point is unnoticed by Brachet, Senn, Charpentier, Mathey, and Odier.

We have made some researches upon this question, which lead to the following results. Adding sixteen cases from Abercrombie and Mathey, to 138 observed at the *Enfans Malades*, we obtain a sum of 155 cases. Of these, we find,—

From 2 to 4 years inclusive ..	45
— 5 to 7 ditto	54
— 8 to 10 ditto	29
— 11 to 13 ditto	22
Above 13	5

Hence the age at which acute hydrocephalus occurs most frequently, is from five to seven inclusive. On comparing this result with that obtained by M. Papavoine, in his researches on tubercles, we arrive at the discovery of this important fact, "*that acute hydrocephalus attacks children most frequently, exactly at the same period of life when tubercles occur with the greatest fre-*

* It seems strange that M. Guersent should say that he never observed a case of meningitis during the burning heat of summer.

quency." Of 920 autopsies made at the *Hopital des Enfans*, during the year 1824, and from 1826 to 1830, 709 demonstrated the existence of tubercles in some one organ or organs. On arranging the number of deaths according to the children's ages, we find 133 from five to seven years old; and of these, ninety-six subjects were tubercular, and thirty-seven free from tubercles, a proportion much greater than at any other period.*

Duration.—"The duration of acute hydrocephalus (says Dr. Copland, *Dict.*, Part 3, p. 664) is extremely various. Fothergil, Sprengel, Cheyne, Goelis, &c., consider that it commonly runs its course within three weeks; the most common duration of the disease, according to my experience, is from two to four weeks." Whytt, Frank, Smyth, Yeats, and others, think it may be much protracted beyond that period. Let us try if we cannot arrive at something a little more precise. Joining sixteen cases, from Dr. Abercrombie's work, to 111, observed at the *Hopital des Enfans*, we have a sum of 117, in which we were able to ascertain the commencement of the disease. Of these we found that

Within 7 days	31	terminated.
Within 14 days	49	
Within 20 days	31	
Beyond 20 days	6	
	117	

Hence eighty out of 117 cases, or nearly two-thirds, terminated within the first fortnight, while we find only one-eighteenth of the whole number exceeding the period of three weeks.

Tubercular meningitis may occur under two forms,—1st. The *chronic*, which is frequent, and comprehends the great variety of symptoms described by authors under the name of "premonitory symptoms;" 2nd. The *acute* form.

The *chronic form*, after having continued for a very uncertain period, usually terminates in an acute attack, perfectly similar to that which is primitively acute. We have never seen an example of the acute form terminating in the chronic, as some writers say, nor does it seem possible, except in one case, where chronic meningitis, having assumed an acute character, is subdued by treatment, and returns to its former slow and insidious march; but even this is very rare.

Acute tubercular meningitis may terminate in three ways. 1st. Inflammation of the cerebral membranes may be the only pathological appearance we find after death. 2nd. It may be accompanied by *yellow ramollissement* of a portion of the cerebral substance not immediately in contact with the inflamed pia mater. 3rd. In effusion into the ventricles. The first two are rare; the third termination is infinitely the more frequent. After an attentive consideration of facts, we have been unable to discover any symptoms by which the three forms just mentioned can be distinguished from one another with any degree of certainty; we are therefore induced to embrace them under the same general description, until further researches shall have rendered a more accurate diagnosis possible.

Anatomical characters. — Following the example of M. Andral, we shall precede the description of this disease by a brief account of the pathological changes observed after death. In many cases the vessels of the pia mater, enclosing the convolutions, are more injected than in the normal state, while the arachnoid never (or rarely ever) presents any traces of inflammation on its free surface, such as effused lymph, pus, fragments of false membrane, &c. Sometimes the injection of the pia mater is carried to a very high degree, and a greater or less quantity of sanguineous serum is effused between it and the arachnoid. In other cases the greater portion of the cellular membrane is normal, but here and there we observe patches of a yellow colour, frequently surrounding the entrance of the great vessels, at the fissure of Sylvius, the decussation of the optic nerves, and other parts at the base of the brain. On examining these yellow patches, we find they are produced by the infiltration of a yellow, lardaceous, friable matter, into the tissue of the pia mater. The arachnoid sometimes adheres to the portion of membrane thus altered; sometimes it remains free. The pia mater is generally more or less thickened in these parts, and often adheres to the cerebral pulp, which may be injected and a little softened to the depth of one or two lines. In several cases this lardaceous matter is found between the convolutions, when the two opposite layers of pia mater adhere to-

* Journal des Progress, 430, t. 11, p. 84.

gether, and, as it were, glue up the convolutions. This yellow substance is evidently analogous to tubercular infiltration of the organs, and the state of the membranes in the neighbourhood must vary with the greater or less degree of inflammation which accompanies its secretion. It is often collected into a homogeneous mass, but in many cases, by submitting it to the microscope, we have found that it is composed by the confluence of a number of small, opaque, yellowish granulations, very similar to those we find under the pleura or peritoneum in scrofulous children. But the traces of tubercular diathesis are not confined to a patchy infiltration: the most remarkable lesion, that from which we have derived the name *tubercular meningitis*, is the presence of *miliary tubercles* in various parts of the pia mater. These granulations vary in size from that of a millet-seed to a pin's head; they are globular, and semi-transparent, or of a dull yellow colour; sometimes confluent, or scattered singly, they are chiefly found, like the lardaceous patches, about the fissure of Sylvius and base of the brain; in some cases, however, they exist only in that portion of the membrane which dips between the convolutions, in the choroid plexus, &c., and are not discoverable without more care and attention than are generally bestowed on autopsies. When the granulations are scattered, the membranes and cerebral pulp in the neighbourhood are generally in a normal state, free from the thickening, adherence, or ramollissement; but when confluent, the latter parts often present the same changes that we have described as accompanying the patchy infiltration. In addition to granulations, tubercles, varying in size from that of a cherry-stone to a walnut, are often found in the cerebellum, or, less frequently, in the pons varolii and hemispheres of the cerebrum. The other morbid changes are such as have been often described in acute hydrocephalus; we have therefore only to enumerate them as,—more or less injection of the cerebral mass; in a majority of cases effusion into the ventricles of clear or troubled serum, varying in quantity from a few drachms to five, six, or eight ounces; softening of the central white parts, and sometimes destruction of the fornix and septum lucidum, flattening of the convolutions, dryness of the arachnoid, &c. In two or three cases, in addition to granulations and marks of inflammation of the pia mater, we found the posterior part and floor of the lateral ventricles reduced to a soft pulp, of a flocculent appearance and a light canary colour, and giving way under a gentle stream of water; these are the cases which we regard as exhibiting the termination of tubercular meningitis in yellow ramollissement.

We have consulted most of the standard works on hydrocephalus (except those of German authors, whose works we were unable to procure at the library of the School of Medicine), to determine whether the miliary tubercles and lardaceous patches have been described amongst the pathological phenomena of that disease. The yellow homogeneous deposit is evidently the same as that so frequently described under the terms "coagulated pus, purulent effusion or infiltration of the pia mater, gelatinous deposit, &c." As to the granulations, we find them distinctly mentioned by Dr. Abercrombie,* who quotes two examples from Drs. Clarke and Powel. In one "the pia mater was much thickened, and its inner surface was studded with small tubercles, like pin-heads. Similar tubercles were observed in other parts of it, especially where it lies between the convolutions." "This tubercular disease of the pia mater (says Dr. Abercrombie) does not seem to be a common affection." It is a very rare affection in adults, but in children we shall have occasion to demonstrate its great frequency. M. Dance, in his treatise on acute hydrocephalus in adults,† describes three cases of hydrocephalus with granulations, occurring in persons of 17, 28, and 35 years of age. In one he mentions "that the pia mater which dips between the convolutions, contained a number of small, hard, grayish bodies, similar to tubercular granulations; and in the centre of the pons varolii, at its posterior part, there existed a single granulation of the same kind, quite distinct from the surrounding cerebral tissue, which seemed healthy." In the second case "a large surface of the pia mater on the convexity of the brain was studded with a quantity of round granulations, not larger than a pin's head, gray, hard, and semi-transparent; some of these were confluent,

* Abercrombie on Diseases of the Brain and Spinal Chord, p. 70.

† Archives Générales, 1st series, vol. 22, pp. 39, 45, and 47.

the rest discrete. An equal number of similar granules was found in the pia mater at the base of the brain." The third case presented appearances of the same kind. In two out of these three cases M. Dance describes the existence of granular tubercles, identical with those of the pia mater, in the pulmonary tissue, and under the peritoneum. The only allusion of an anterior date that we find, is in the thesis of M. Giraud, 1818, No. 4, who says "this thickening is evidently seen in the layers of membrane which constitute the septum of the lateral ventricles; and here we often find some very small granulations which require close examination before they are discovered." These are the only passages which we remember having met with relative to this pathological lesion, previous to the year 1834, when a very correct description of it was given by M. Gerhard of Philadelphia. Since then it has also been noticed in detail by M. Rufz, in his thesis, 1835, No. 42, but by some strange confusion, or in consequence of imperfect observation, this latter gentlemen places their seat in the arachnoid membrane, instead of the pia mater, an idea not only disproved by observation, but contrary to all analogy.

Such is a brief description of the lesions that characterize tubercular meningitis; we have now to determine its relation to the disease called acute hydrocephalus. It was only within the last three years that attention has been directed towards this interesting point of morbid anatomy: our proofs must therefore rest on the small number of facts observed since that time. In thirty-two cases of hydrocephalus mentioned by M. Gerhard in his excellent paper on the cerebral diseases of children,* we find twenty-nine in which granulations, tubercles, or tubercular infiltration of the pia mater, existed: in one early case the term granulation, or tubercular matter, is not mentioned, but the description given of the yellow lardaceous deposit leaves little doubt as to its nature. In eight cases observed by M. Rufz,† a tubercular condition of the cerebral membranes existed, without a single exception. In twenty cases of the same disease which we have noted with great care since the year 1833, similar morbid appearances were found nineteen times; in only one case were the pia mater and cerebral substance free from any trace of granulation or infiltration, and in this case the thoracic and abdominal viscera were equally free from the tubercular degeneration. Here then we have a sum of sixty cases of acute hydrocephalus observed at the Hopital des Enfans Malades since the year 1833, and of these sixty we find no less than fifty-six where the presence of granulations or tubercular infiltration of the pia mater was discovered after death. The propriety of the term "*tubercular meningitis*," which we have ventured to introduce into medical nomenclature, seems thus fully justified; it cannot altogether replace that of hydrocephalus or some equivalent term, for unquestionably several cases of the latter disease occur without any tubercular lesion, but should the result now stated be confirmed by future observations, it is evidently the name applicable to a large majority of cases.

The coincidence of scrofula and hydrocephalus has been mentioned by several writers. Cheyne says "hydrocephalus chiefly falls on the children of families having a strumous taint, at least upon children having those peculiarities of skin, complexion, and features, which indicate scrofula:" and in a note (*Essay*, page 29) he observes, that Dr. Percival, in twenty cases of which he kept notes, found that eleven children were certainly strumous, and four probably so.

It seems strange enough that no attempt has been hitherto made to decide this important point, by a reference to pathological anatomy. Without taking into consideration the state of the cerebral membranes just described, what would have been more easy than to note the presence or absence of tubercles in the thoracic and abdominal cavities of patients cut off by acute hydrocephalus, and thus determine directly the proportion of scrofulous subjects attacked? We are not aware that this has been done by any writer on hydrocephalus, nor do we find any allusion to such researches either in "Copland's Dictionary," in the "Cyclopædia of Practical Medicine," or by MM. Duges and Guersent in the French "Dictionary." Yet this is a

* American Journal, 1834, Part II, p. 101.

† Thesis, 1835, l. c. M. Rufz mentions 14 cases; but as 6 of the 32 given by M. Gerhard were communicated by M. Rufz, we think it right to subtract them for fear of error.

simple and easy method of resolving the question. Here, again, we are compelled to rely exclusively on our own observations, and those made about the same time at the *Enfans Malades*, by MM. Gerhard and Rufz. Dr. Cheyne was perfectly justified in remarking (*Essay* 3, p. 1), that, in general, no cases are more loosely reported than those of hydrocephalus; but Dr. Cheyne's work offers the most striking proof, that its author fully merits the same reproach which he addresses to others.

We procured the "Essay on Hydrocephalus" with considerable trouble and expense, hoping to find in it some data from which we might judge of the coincidence between hydrocephalus and tubercular affections of the great cavities. Dr. Cheyne's essay contains a report of twelve fatal cases of this disease, but only *three* of the twelve are accompanied by the post-mortem appearances, and of these three the chest is not mentioned in the first case; in the second, neither the chest nor the *head* was opened; in the third, neither the chest nor the abdomen. In the four dissections without cases appended, we do not find the chest mentioned a single time. The greater number of authors we have consulted, neglect to mention whether or not tubercles were contained in the chest or abdomen.

If we make these observations, it is not in a spirit of criticism unbecoming a young writer; but to excuse ourselves for referring so frequently to our own researches, instead of founding our opinion on the authority of men so distinguished as Cheyne, Percival, Fothergil, Whytt, and other English physicians. We have already shown, that granulations or lardaceous infiltration of the pia mater occur in a great majority of cases of acute hydrocephalus; if this were not sufficient to prove its coincidence with a tubercular diathesis, we might demonstrate it in the following manner:—

In the thirty-two cases of M. Gerhard, already mentioned, we find two where the condition of the thoracic or abdominal cavities is not noted; in twenty-nine of the remaining thirty cases we have tubercles in the lungs, bronchial glands, or some one of the abdominal viscera. In twenty cases, which we have observed with care, we find one where an accident prevented us from examining the thoracic or abdominal viscera; in eighteen out of the nineteen remaining cases, we discovered tubercular deposit in some one or more of the thoracic and abdominal organs.

Hence, out of forty-nine cases of acute hydrocephalus, where the great cavities of the chest and abdomen were examined with the most scrupulous care, we find no less than forty-seven presenting evident marks of the tubercular diathesis. In a great majority of cases, the tubercles were situate at the same time in the lungs, under the pleuræ, in the liver, spleen, or mesenteric glands; that is to say, the tubercular diathesis was general, and what is remarkable, the inferior surface of the serous membrane covering the lungs, liver, spleen, and intestines, was frequently studded with miliary granulations similar to those seen in the pia mater. In two of the thirty cases reported by M. Gerhard, the tubercular deposit was confined to the bronchial glands; in only one of our twenty cases do we find a similar occurrence; in two cases, however, the tubercular diathesis was betrayed by the existence of a single tubercle in one lung, which seemed placed there to confirm our law, and would certainly have escaped notice, without the extreme care employed in submitting every portion of the pulmonary tissue to minute examination.

Causes.—If we consult authors upon this point, we find a great variety of circumstances mentioned as *causes* of hydrocephalus; thus Dr. Copland gives no less than 47, which may become either exciting or predisposing causes of this affection; but if we are guided by clinical observations in preference to the dicta of writers, many of whom copy one another without any reflection, we shall find, that in a great number of cases it is impossible to arrive at the discovery of any thing certain upon this head.

We have demonstrated that a scrofulous diathesis exists in a very great majority of children attacked by acute hydrocephalus (47 out of 49); how far this may be a predisposing cause is another question, which we shall not discuss here, although we agree with most physicians in regarding it as a principal one. But passing by the predisposing, if we examine facts for the exciting causes, we find in the ten cases published by M. Gerhard, the following, viz., disappearance of a cutaneous eruption from the scalp, 2; hooping-cough, 1; the rest without any assignable cause. In the ten cases

published by M. Rufz in the year 1832, six children seemed perfectly well up to the moment of attack; of the remaining four, one had hooping-cough a short time before, and three laboured under diarrhœa, or scrofulous affections of long date. In the twelve cases published by M. Senn, we find he has not been able to discover the exciting cause once. One half the children were quite healthy up to the moment of the attack, or shortly before it; the other half suffered more or less under chronic diarrhœa, or are described as of weekly constitution. Professor Duges, who has left us a history of eighteen cases observed in the female wards of the *Enfans Malades* during the year 1818, says, "In a majority of cases no cause could be discovered; some seemed produced by worms; 3 occurred during the desquamation of measles; 1 during its eruption; 1 from jealousy; 1 from a fall on the head; 1 after hooping-cough. In our own twenty cases, the only causes which we observed were, long exposure to the sun, retrocession of an eruptive disease of the scalp, and exanthemata. Hence in a large number of cases, a knowledge of the exciting causes is very limited indeed; a circumstance we can understand, by reflecting that the cerebral membranes, already the seat of chronic inflammation, or tubercular deposit, may readily pass into a state of acute disease under the influences of causes apparently trifling.

Species, Symptoms, Progress.—We have distinguished tubercular meningitis into two species, the *chronic* and *acute*.

1st. *Chronic tubercular meningitis.*—The symptoms by which the existence of this form is indicated are extremely various and uncertain, and it is only when they have terminated suddenly in acute headache, with spontaneous vomiting and drowsiness, or when traces of chronic inflammation are found in patients cut off by some other disease, that we are able to connect the symptoms with a lesion of the cerebral membranes. They constitute what are called "the premonitory signs" of most authors, and are well described by Dr. Copland in the section of his essay relative to the nervous form of acute hydrocephalus; but the real cause, viz., chronic inflammation, seems to have escaped him and other writers. The variety and uncertainty of these signs depend chiefly on three circumstances:—

1st. The granulations and lardaceous deposit in the pia mater are very often attended with tubercles of the cerebellum, pons varolii, or hemispheres, and the symptoms produced by these foreign bodies, must in many cases modify the signs peculiar to chronic inflammation of the membranes. On these tubercles probably depend the wandering pains in the limbs, chest, or abdomen, the irregular stumbling walk, weakness of the extremities, partial convulsions, and violent intermittent headache, which are enumerated amongst the premonitory phenomena.

2nd. In consequence of the scrofulous nature of the inflammation, the symptoms are less prominent, and march in a slow, insidious manner.

3rd. The disease, as we have proved, almost invariably occurs in tubercular children. We have published two cases of its development in patients labouring under chronic tubercular peritonitis; one or two in patients affected with pulmonary phthisis: in a number of subjects the lungs and abdominal viscera were crowded with tubercles; it is unnecessary to point out how the cerebral symptoms may frequently be masked by these affections, and how difficult it must be for the physician to determine whether they really depend on lesion of the brain or are merely the effect of abdominal derangement.

We have seen several cases at the *Enfans Malades* where the symptoms of chronic meningitis had been treated in town, for months before the child's admission, for gastro-enteritis, &c., yet inspection of the body after death, revealed the existence of nothing in the abdomen more than some tubercular degeneration of the mesenteric glands, with granulations under the serous lining of the liver and spleen. The following is a summary of what we have observed in cases of chronic tubercular meningitis; it is scarcely necessary to add that no case was considered as an example of this disease unless the presence of chronic inflammation was ascertained by autopsy.

The greater part of these chronic cases terminated in an acute attack, followed by effusion and death, but we had also an opportunity of seeing a few where the patient was cut off by pneumonia, or an exanthematous disease, during the chronic stage. The *duration* of chronic tubercular meningitis is extremely various; we have no means of

ascertaining its commencement, as we can in the acute form, and are therefore compelled to date its existence from the first cerebral symptoms.

In a majority of cases the first symptoms of a cerebral affection set in from two to three or four months before the acute attack; in one or two others we could trace them back to a year; and in one case the child, three and a half years old, had been affected with lesions of sensibility and motility from birth. The duration then of the symptoms, in the cases we observed, was from two years to three or four weeks.

In some cases the child complains of general uneasiness, pains in the limbs, and shows a dislike to motion of any kind; he loses his natural gayety of temper, becomes sad, and avoids the society of his little playfellows; the amusements of childhood no longer charm him. These symptoms may be joined by irregular accesses of fever and headache, and then the disease is most easily recognizable: but in several cases the diagnosis is obscured by the presence of abdominal pain, alternations of constipation and looseness, with gradual wasting of the flesh, and loss of complexion, &c. In one case the symptoms consisted in frequent headache, returning every two or three days, with diarrhœa from time to time; these continued for five months; then drowsiness and increased headache for another month; these were followed by constipation and anorexia, for eight days; after the expiration of which, the acute attack declared itself, as it generally does, by sudden vomiting and severe cephalalgia.

Children affected with chronic meningitis are often attacked by convulsions during infancy, or are subject to a purulent discharge from the ears; they also suffer from irregular pains in the abdomen and chest; their sleep is sometimes disturbed, and the child suddenly starts up in bed, uttering a piercing cry. This latter symptom we observed in one case for two months before the acute attack, together with frequent headache, irregular fever, and gradual loss of flesh. In another case the little patient had been suffering for three months under irregular headache, with accesses of fever, loss of spirits, and pain in the abdomen, and it was impossible to detect the presence of cerebral inflammation; in fact, the symptoms often assume almost precisely the features of what is called in England "infantile remittent fever."

The phenomena now described are taken from cases of acute meningitis terminating fatally, in which one or more cerebral symptom preceded the acute attack, and traces of chronic inflammation were found after death. But we have spoken of another series of cases, in which the patient died of thoracic or exanthematous diseases during the chronic stage. What were the symptoms here? In two cases we observed no cerebral symptoms whatever during life, nor did the history of the case lead to the discovery of the child's ever having been affected with signs of cerebral disorder. In one case the child's progression was uncertain and unsteady from birth; the left leg feeble, and the head inclined a little to the left side. In a third case, where the anatomical characters of chronic inflammation were most unequivocal, we observed two very remarkable symptoms. The flexor muscles of the soles of the feet were permanently and strongly contracted, giving them an arched form; the flexors of the fingers were contracted in the same way; the fingers were flexed at a right angle with the metacarpal bones, the phalanges remaining straight, while the thumb was firmly flexed, and lodged in the palm of the hand; the head was fixed towards the left side, as in the former case; and the child was subject whenever he drank, to a short access of suffocation, with spasmodic cough. These symptoms had existed for some time before the child's admission into the hospital; but we were unable to ascertain for what period, or whether they were accompanied by headache.

Finally, in a great many cases, chronic tubercular meningitis, or at least granulations and lardaceous deposit, may exist without producing any modification of the sensibility and motility, and the child seems to enjoy perfect health up to the moment of the attack.

Acute Tubercular Meningitis.—Whether this supervenes on the chronic form, whose symptoms we have just enumerated, or breaks out suddenly in subjects apparently healthy, the first phenomena that present themselves are, increase or sudden access of headache, with bilious vomiting. But before entering farther into the symptomatology, let us make a distinction of the disease

into *forms*. We propose to distinguish two, chiefly characterized by the early symptoms. 1st. The *apyretic* (*nervous* form of the German authors), which is the most frequent and easily recognised. 2nd. The *febrile* form (inflammatory of Kuhn and Hopfengartner), accompanied by febrile symptoms. We prefer the term febrile to that of inflammatory, which would seem to imply the absence of inflammation in the first form.

A.—Apyretic Form.

Symptoms.—Whether preceded by a train of premonitory phenomena, or breaking out suddenly, as it often does, the first symptoms are, as we have said, severe headache and spontaneous vomiting. These two symptams occur in a great majority of cases, and serve to mark with precision the passage of the chronic to the acute stage, or the sudden development of the latter.

The headache is commonly very acute, occupies the whole of the frontal region on one side, and continues, with more or less severity, according to the sensibility of the individual, until he falls into a state of complete coma. In some cases the child only complains of the head from time to time, or when his attention is directed to this symptom; but, in many others, the hand is carried constantly to the forehead, and the acuteness of the pain is expressed by low plaintive moans, or acute screams, the child crying incessantly, "Oh, my head, my head." The vomiting, which accompanies this first symptom, is spontaneous—that is to say, we are generally unable to detect any inflammation of the gastro-intestinal surfaces, or other lesion, to explain its occurrence. It continues for two, three, or four days, seldom beyond this latter period; we have never seen it after the coma became at all permanent.

Except in cases of evident complication, the vomiting, as we have remarked, is seldom accompanied by any symptoms of gastric disorder, and when combined with severe headache and drowsiness, it forms a symptom of the greatest value in the diagnosis of meningitis. The physician, however, should be on his guard against a peculiar sensibility of the abdominal integuments, which sometimes exists at the commencement of this disease, and might lead to error; but all other symptoms of abdominal inflammation are absent, and a little attention will show that this phenomenon depends rather on nervous irritability; for, in many cases, the whole surface of the body is equally sensitive to the touch. Even at this early period, the patient's countenance begins to assume the peculiar expression noticed by all writers on acute hydrocephalus; he lies in a listless manner on his back or side, avoids the light, and manifests a tendency to dozing; the eyelids are commonly closed; the features pale, dull, and devoid of expression, or the eyebrows are knit, and the countenance is marked by anxiety and the sense of some great internal suffering. The little patient is often very irritable; the least touch annoys him, and when we press the abdomen he seems to suffer some pain; in other cases, the extremities and trunk are abnormally sensitive. The child now refuses to answer any questions, or is easily disturbed and irritated by those surrounding him.

The face is commonly pale, but from time to time one or both cheeks assume a vermilion flush, which soon gives way to the habitual absence of colour. These alternations of paleness and flushing occur several times in the twenty-four hours, but are seldom prolonged beyond the end of the second stage. The injection of the face is reproduced by moving the child in bed, by pinching him, or by any action which tends to rouse him from the state of drowsiness he lies in.

In many other cases the child, instead of lying torpidly in bed, is agitated, rolls his head about upon the pillow, and is constantly changing position.

Constipation of the bowels exists from the commencement of the disease, and is often very obstinate; even when chronic diarrhœa pre-exists, the influence of the sensorial disturbance is generally sufficient to suspend the alvine evacuations. The tongue is clean, and free from any redness at the edges; the skin commonly cool, or very slightly warm, and the pulse free from febrile excitement; it seldom passes 100, and is very frequently slower than natural, from 60 to 70, irregular, and sometimes intermittent. On this latter point we know we differ from all writers on hydrocephalus, but we shall return to it again when analyzing the principal symptoms.

The respiration is not modified at first in any perceptible manner; it is regular and

free, or perhaps a little slow, and interrupted from time to time by a deep-drawn sigh that is very characteristic. In the greater number of cases we have seen, the intellectual faculties remained undisturbed, until completely extinguished by coma; in some cases, however, children of a certain age were affected with a low muttering delirium, and incoherence of ideas.

When the symptoms just described have continued for a few days the stupor becomes more marked; there is now no vomiting or nausea, but the headache continues; strabismus very frequently appears, or some slight lesion of motility or sensibility is observed; the head is thrown backwards, and often rigidly fixed: there is some difference between the contractility of the extremities on both sides of the body, or the sensibility is not equally distributed; but these symptoms are seldom well marked until a later period. The alternations of flushing and paleness are now more evident, and the pulse is slow and unequal. It is very difficult, however, to define the state of the pulse with precision, for though we generally found it slow, we have often remarked a difference of from ten to fifteen beats; when counted a short time after, and during the lapse of a minute the pulse would beat at the rate of 60, for a few seconds, and then mount to 80 or 90, for a few seconds more, when it fell again.

The most prominent symptom of this period is the increased somnolence, from which the patient is roused with some difficulty; the thirst is slight, and the appetite generally remains. In young children we may have convulsions at any period of the disease, but in those of more advanced age they are rare.

The state of the pupils is extremely various; sometimes dilated or contracted, sometimes dilated one day and contracted the next, or *vice versa*; they do not preserve any constant relation to the quantity of the serum effused, or intensity of the inflammation; it is certain that effusion into the ventricles, even in large quantity, does not always produce a dilated pupil. By degrees the child passes from a state of sopor to one of coma, which constitutes what is called the third period. At the commencement of this stage the strabismus is most evident, and the mouth sometimes deviates to one side; the patient lies constantly on his back, as if in a profound sleep; the eyelids are commonly closed, or half open, and we have remarked that one is often relaxed, while the other contracts powerfully when we attempt to uncover the eye. The cutaneous sensibility is now evidently modified; one extremity is less sensible than the opposite one when pinched; but this is not permanent, for we may observe the contrary next day. It is now that rigidity of the neck, trunk, and limbs, is most clearly seen. Sometimes the dorsal muscles are in a tetanic degree of contraction, and the child may be lifted up in bed by the hand placed under the occiput, as if he were made of a single piece. One of the arms is flexed on the chest, and rigid, while the other wanders about the head and temples, or is employed in picking the nose or lips. This rigidity is not permanent, it alternates with relaxation almost amounting to paralysis, or shifts from one side of the body to the other, as the coma persists; the pulse rises gradually, or often suddenly, to 120, 130, or 150, and becomes small and weak, though regular; the deglutition is a little difficult, and the respiration, before slow, is now accelerated; there is some trembling of the upper extremities, or convulsive movements of the muscles and eyeballs; the evacuations are now involuntary; the corneæ get dull, and are covered with a film; the skin is hot, often irregularly so, with partial sweating; the respiration becomes gradually more and more embarrassed and stertorous, and the child dies, either in convulsions or in a state of apoplexy.

B.—Febrile Form.

We shall be extremely brief in our description of this form, which differs from the preceding merely in the attack being accompanied by febrile symptoms. Instead of the pale cool skin which so often inspires the physician with a false security in the former variety, the face is here flushed; the forehead and skin warm, and the pulse accelerated; in a word, the lesion of the brain is attended with what is called "inflammatory fever," more or less clearly marked; however, this soon subsides into the somnolence and coma of hydrocephalus in general. We have not been able to discover any remarkable difference in the presence or absence of premonitory symptoms, or any peculiarity of lesions &c., between these two forms.

In the preceding sketch we have not pretended to give a complete view of acute tubercular meningitis; want of space and time compels us to pass over many points whose discussion belongs rather to a regular treatise than to a short essay; and it seems more useful to examine certain points not yet sufficiently cleared up, than repeat the generalities to be found in every standard work.

Analysis of the Symptoms.

If asked to resume the history of hydrocephalus, in a few words we would answer, —"It consists in headache, spontaneous vomiting, constipation, somnolence, and slow pulse."

We regard the *ensemble* of these five symptoms as pathognomic of the disease, and believe they indicate its existence with as much certainty as any other set of symptoms (not physical) indicate any other disease.

The irregularity, variety, and uncertainty of the symptoms at an early stage of acute hydrocephalus, have, from time immemorial, been alleged as an excuse for its having been so frequently overlooked or mistaken. We cannot but think that this irregularity and uncertainty depend on the imperfect manner in which observations are generally made, and on the neglect of comparing together a sufficient number of accurately taken cases. On the contrary, we propose in the following section to prove that four out of the five principal symptoms of hydrocephalus present themselves in five cases out of six, without exception, and what is still more curious, very nearly in the same proportion for each.

Headache.—If to our own twenty cases we join ten, published with all their details by M. Gerhard, on whose accuracy as an observer we place the most implicit reliance, we find that headache existed twenty-six times. In one case the absence or presence of this symptom is not mentioned. In three only, there was no headache. Hence, we have more or less severe cephalalgia in 26 out of 29 cases.

Vomiting was observed at the commencement of the acute attack in 26 cases of the 30, and in one was replaced by considerable nausea, or 27 times vomiting, and nausea in 30. Hence, in a very great majority of cases, the disease commenced with headache and spontaneous vomiting. This proportion, though very great, probably falls short of the reality, if we consider on the one hand, the great difficulty of determining the existence of headache in children below four years of age; and, on the other, the impossibility of always obtaining a correct history of the case, especially in an hospital, where the patients are sometimes brought by strangers or uneducated parents.

If we examine cases of hydrocephalus published a few years back, we do not find the proportion of the two symptoms just mentioned at all so great. We can only account for this by supposing these cases were not observed with the same care as our own, for, certainly, neither the nature of the disease nor its symptoms have changed since that time. However, even in those observations we find headache and vomiting mentioned very frequently.

In eight cases published by M. Rufz, in the year 1832, we have *headache* described as existing only three times; but we must remark that most of the other children were below four years of age, and two were brought to the hospital in a state of profound coma. In 14 cases observed during the following year by the same gentleman (and probably with greater care), we find 13 where headache existed. In the 12 cases which occurred at the *Enfans Malades* (girls' ward), during the year 1824, we have cephalalgia eleven times; once, not mentioned. Hence, in a sum of 64 cases observed at the *Hopital des Enfans Malades* by MM. Senn, Rufz, Gerhard, and ourselves, we find headache occurring 53 times, and two cases where the presence or absence of this symptom is not mentioned.

Vomiting occurred in 19 out of the 22 cases of M. Rufz; in 9 out of 11 of M. Senn's cases, where this symptom is mentioned; hence in 64 cases, 57 were accompanied by vomiting at the commencement; 1, where the symptom was neglected.

Constipation.—This is also a very frequent symptom. In a sum of 60 cases, where the state of the bowels was noted, we find 47 in which more or less obstinate constipation is mentioned; but this proportion falls probably short of the truth, for in M. Rufz's 22 cases, we find constipation existing 19 times. In M. Gerhard's, 8 times out of 10; in M. Senn's, 10 times out of 12. The deficiency

exists in our own cases, and probably we did not employ all the care and attention necessary for the investigation of this symptom; but even the proportion of 47 to 60 is great, when we reflect that many children laboured under chronic diarrhœa at the time of attack, and that purgative medicines were immediately administered in almost every case.

It results from an examination of the above facts, that vomiting, headache, and constipation, exist in a very great majority of cases of acute hydrocephalus at the commencement, and, what is more curious still, very nearly in the same proportion for each symptom. Might we not suspect from this latter fact, that the symptoms of cerebral disease are not quite so inconstant as some writers of high authority would lead us to think, and that accurate observation on an extended scale may, at a future time, dissipate a great deal of this uncertainty?

Somnolence, varying in degree, from a slight tendency towards sleep, to stupor, existed in every case except one.

The Pulse.—It is not easy to determine with accuracy the state of the pulse at the commencement of the disease, as the patients are seldom submitted to our examination before it has made some progress, and even where it is developed before our eyes, the person employed in collecting observations does not often pay any particular attention to the patient before the appearance of one or more prominent symptoms. This happens especially in hospital practice, where the short time devoted to the daily visit does not permit a strict examination of all the patients; those apparently suffering little, are passed by with perhaps a glance, and more than once we have had to regret neglecting a case in which headache, drowsiness (and vomiting, as we afterwards learned on inquiry), have existed for one or two days before we commenced an accurate register of the phenomena. Robert Whytt, the earliest writer on hydrocephalus, distinguished this disease into three periods, according to the state of the pulse. In the first the pulse is quick and febrile; in the second, slow and irregular; in the third period it becomes again quick, regular, but feeble. We have already shown how the digestive functions are influenced at an early period of this disease in a great majority of cases, and we think it highly probable that the sensorial disturbance modifies the state of the circulation at an equally early period, not by accelerating the pulse as Whytt and *all* authors after him say, but by diminishing its frequency.

This is a point of the utmost practical importance to determine, for should future experience show that this state of the circulating apparatus really exists at an early period of hydrocephalus, the diagnosis of that disease would become comparatively easy. Experience proves, that it does exist in a certain number of cases; but further researches are necessary to ascertain the proportion. We had occasion to judge of its value as a pathognomonic sign in a case of irregular small-pox which occurred not long ago at the *Hopital des Enfans Malades*. The premonitory symptoms in this case bore a very great analogy to those of hydrocephalus in the early stage. The child was seized with headache, spontaneous vomiting, agitation, prostration with little fever, and drowsiness. The state of the bowels previously was not ascertained. The *ensemble* of symptoms we have just mentioned, led the physician on duty to diagnosticate meningitis, and it must be confessed the appearances were very deceitful, but on examining the pulse, we found it beating at the rate of 140 per minute. This led us to conclude, together with our friend M. Constant, that the symptoms belonged to an exanthematous fever, rather than hydrocephalus, as we had never seen the circulation accelerated to such a degree at the commencement of this latter disease. In a few days an imperfect eruption of small-pox broke out; the child died, and the cerebral organs were found perfectly healthy.

The constancy of vomiting with headache, enables us to fix the precise commencement of the disease in a great majority of cases; let us limit the first stage between these two symptoms on the one side, and increased sopor, with modification of the motility or sensibility, on the other.

What is the state of the pulse during this period? All we can venture to affirm is, that the pulse is very frequently slow. If we examine the great number of cases of hydrocephalus published, we shall soon convince ourselves of the great difficulty experienced when we endeavour to ascertain the state of the pulse during the first stage. Some authors neglect to mention this symptom altogether; others confine themselves to the expression "quick, febrile pulse, accelerated circulation, &c.; fever;" and in many other cases, where the state of the pulse is accurately noted, we are prevented by a want of sufficient details from ascertaining the exact period of the malady. On scrutinizing our own cases, we find they are not altogether free from the same objections; the materials for deciding the above question are, therefore, important; but in medicine, as in politics, it is better to make the most we can of the little we have than leave affairs in confusion and uncertainty.

The following analysis of the cases observed by Messrs. Rufz, Gerhard, and our-

selves, shows the state of the pulse at the earliest period submitted to our examination. These cases are omitted where the patient was seen for the first time in a state of coma, as often happens in an hospital, or in the second stage. We comprehend the first stage between the limits already mentioned.

First Series—M. Rufz.

Case 1.—Pulse 96; first day.
2.—Pulse 104; fifth day.
3.—Pulse 96; third day.
4.—Pulse 96; fourth day. No drowsiness whatever at this time.
5.—Pulse 72; first day. This case commenced under the author's eyes.

Second Series—M. Gerhard.

Case 1.—Pulse 72; third day.
2.—Pulse 80; seventh day.
3.—Pulse 104; fourth day.
4.—Pulse 68; eighth day.

Third Series—Dr. Green.

Case 1.—Pulse 80; sixth day.
2.—Pulse 64 to 76; sixth day.
3.—Pulse marked *slow* in first and second days; on the fourth day, 96.
4.—Pulse marked *slow* on the first and second days; on the third day, 96.
5.—Pulse 84; *first* day. The three preceding cases were developed at the hospital under our eyes.
6.—Pulse 64 on the second day; 56 third day; 72 fourth day.
7.—Pulse 54 on the third day.
8.—Pulse 72 on the second day; rose gradually to death.
9.—Pulse 56 to 64; seventh day.
10.—Pulse 72; fifth day; sixth day, 74. Hardly any drowsiness observable at this time. The pulse continued rising, and did not fall as coma supervened.

Thus, in a sum of forty cases, we were able to ascertain the state of the pulse during the first stage only nineteen times. Of these nineteen cases, we find two where the pulse exceeded 100, and that only by *four* beats. In the seventeen remaining cases, the average number of pulsations was 80, a state of circulation comparatively, if not absolutely, slow, when we consider that it coincides with more or less active inflammation of the brain and its membranes. The disease was observed at its origin in only four cases; in two of these we find the pulse beating 72 and 84 on the *first* day. In the two other cases, we unfortunately omitted to mark the state of the circulation for the first ten days, otherwise than by the words "pulse slow;" but, on the third and fourth days, before the expiration of the first period, the pulse was at 96.

The foregoing calculations are not as perfect as we could wish them to be, but they prove incontestably the error into which writers on this disease have fallen in describing the pulse of the first stage as always febrile, quick, &c. This error is one of the most fatal kind in practice, for the young physician who finds a drowsy child complaining of headache, with a pulse at 58, 70, or 80, naturally says, "This is not the pulse of hydrocephalus in its first stage," and is only awakened from his false security when all hope of saving the patient is lost. We do not pretend to affirm that, in several cases, the pulse may not exceed one hundred, and then fall in a few days; but this change in the circulation does not depend on effusion of serum into the ventricles, as is generally supposed; and the cases we have analyzed show, that in several cases at least, the pulse is far from presenting the frequency described by Robert Whytt, of 110, 120, 130, or even 140.*

The other symptoms might be analyzed in a similar manner, but the limits of a short essay prevent us from entering further on this part of our subject. Let us conclude by a few remarks on the diagnosis and treatment.

Diagnosis.—We are not yet acquainted with any symptoms by which acute tubercular meningitis can be distinguished from common inflammation of the cerebral membranes terminating in effusion. When a child, after having suffered for some time under the train of symptoms which attend chronic meningitis, is suddenly attacked with vomiting, headache, drowsiness, and other signs of acute hydrocephalus, the disease is probably of a tubercular nature; our diagnosis will also be aided by considerations drawn from the presence of enlarged glands about the neck, or scrofulous abscesses in other parts of the body,—by the concomitant signs of pulmonary tubercles, of tubercular peritonitis, &c.; by the history of the patient's antecedent health; and the affections most common in his family; but in many cases the child presents all the marks of the most perfect health up to the very moment of attack, and it is only after death that we find the proofs of a tubercular diathesis in the cerebral membranes, lungs, or abdominal viscera.

The distinction of hydro-meningitis† from other diseases, may occasionally present some obscurity, but this can only happen

* Bricheteau's Translat., p. 234.

† We have occasionally employed the terms hydrocephalus, hydro-meningitis, acute meningitis, &c., in order to vary our language, because we do not think simple effusion from irritation or sub-inflammation of the cerebral membranes, can be distinguished during life from cases of tubercular meningitis, or a meningitis with or without effusion.

during the first few days of the disease; unfortunately this is precisely the time when it is most important to form a correct diagnosis: but we think a careful examination will almost always enable the physician to distinguish the malady in question from all others. The diseases which seem to present most analogy at the commencement with acute hydrocephalus, are "eruptive diseases," especially small-pox, when the fever is of an ataxic nature, and the typhoid fever of children. The latter is generally recognised with facility by the diarrhœa, epistaxis, ringing in the ears, febrile pulse, and absence of sopor, which present themselves at a very early period; they are soon joined by tumefaction of the abdomen with gurgling on pressure, and the lenticular spots (*taches roses*), after which it is impossible to confound one disease with the other. We have already mentioned a case of ataxic small pox, where the symptoms at first closely resembled those of hydrocephalus at its commencement; but in these cases the pulse is commonly agitated, quick, and very small; the child is delirious at night (a symptom extremely rare at the same period of hydrocephalus); the skin is more warm; and the appearance of an eruption in two or three days puts an end to all doubt. Authors frequently mention symptoms of acute hydrocephalus being produced by worms; we have never seen a case of this kind; besides, the symptoms accompanying worms never follow the regular march of those which characterize the former complaint. Worms may excite convulsions, vomiting, dilated pupil, and other cerebral symptoms; but remark, the dilated pupil coincides with the vomiting, and we seldom or never find the regular union of headache, vomiting, and constipation, which we have shown to be so characteristic of this disease at its commencement.

Treatment.—On this point our observations shall be brief. Having seen only a single recovery, we are at a loss to say what method of treatment is most beneficial.

The remedies commonly employed at the *Hopital des Enfans Malades* are, bleeding, purgatives, blisters sometimes to the whole head, more frequently to the extremities, and cold applications kept up by a constant stream of water. In the few cases in which we have seen calomel employed, the results were completely negative. In other cases strong purging was excited with croton oil; in one case, which we did not follow ourselves, a cure was obtained by the application of powerful moxæ to the integuments of the cranium, but here the remedy was nearly as prejudicial as the disease itself. In a week or two after the subjugation of the acute symptoms, a new train of phenomena set in; the child died, and extensive suppuration was found between the dura mater and the bone. M. Guersent frequently keeps up a stream of cold water from a vessel furnished with a cock, and placed a few inches above the child's head. The application of cold is thus continued without interruption night and day. In a great many cases this seemed to retard the comatose stage, and prolong life, but though combined with bleeding and other means, we have never seen it successful.

To what are we to attribute this frightful mortality? We conceive it is in great part explained by the discovery made of the scrofulous nature of the inflammation in the cerebral membranes. Why does a scrofulous abscess (cavern) in the lungs, almost invariably occasion death, while suppuration from any other cause is far from being so fatal? Pathologists will answer, One is a simple local inflammation, the other is the effect of a constitutional taint. Perhaps the same reason may be applicable to cerebral inflammation of the kind now described; however, the mortality of the *Enfans Malades* is partly explained; 1st By the great accuracy of the diagnosis. M. Guersent and Baudelocque never fell into the error of calling the cerebral symptoms that accompany certain acute or chronic diseases "hydrocephalus," and swelling their lists of cures; 2nd. By the children being generally brought to the hospital in the second stage, when, as most physicians confess, medical aid is, comparatively, of no avail.

ON THE

DIAGNOSIS OF DISEASES OF THE HEART.

PERICARDITIS.

CASE OF PLETHORIC INFLAMMATION ABOUT THE HEART,

Occurring three times within One Year, and Cured in the third instance by Depressants, without Venesection.

By JOHN FOSBROKE, *M.D., Physician to the Ross Dispensary.*

WHEN I reported Ann Howls's case of plethoric hypertrophy, following plethoric inflammation about the heart, I alluded to that of Mr. John Gwyne, a genteel youth of 18 years of age, by profession a druggist. His disease set in, like Howls's case, on March 8, 1835, with acute pain in the intercostal spaces of the left thorax upon inspiration, a strong full pulse at 86, flushed face, some cough and thin whitish expectoration, symptomatic fever and furred tongue, but with moisture of hands. Mr. MANSFORD, a nephew to the intelligent surgeon of that name at Bath, and pupil to Mr. Rootes at Ross, bled him to ℥xx, before I saw him, conceiving, as any one might

very well have done, that the case was pleurisy, but when I got to him I expressed an opinion that it "would turn out to be something more." The acute symptoms had certainly come on suddenly, but then he had complained for a fortnight before, of an uneasy chest, of pain of the epigastrium in fetching his breath from that part, a feeling about the heart as if it was as heavy as liver, and surrounded with heat, palpitation, and oppression of breath in going up stairs. These symptoms were exasperated by drinking spirits and smoking cigars to relieve the pain.

R. *Pulv. Antim.* gr. xv; *Sulphuret. Antim. Rub., Pulv. Colchici.*, aa gr. v. Sumat omni 2da horâ; which had no effect.

On the 9th there was little or no pain of left chest except at times, but the action of the heart had become violent and irregular, with wandering pains about the body; pain and sense of debility about the loins; no expectoration; pulse 100; tongue dry and feverish.

V. S. ad ℥xx more; *Tartar Emetic* (gr. j, omni horâ) *Mixture.*

In the evening, pulse down to 86, but violent pain in the epigastrium, shooting to the space between the shoulders, and strong palpitation, with a disposition to wandering of the brain.

Twenty Leeches to the Epigastrium, and Tr. Opii gtt. xv, c. *Mist. Ant. Tart.*

I was surprised to find that the pain of the stomach, instead of being less, was greater after the leeching, and attended with writhing of the body and twisting of the features, and I began to suspect the combination of spasmodic action.

Three-drachm doses of Ether, and Liq. Ammon. Acet. mixture, with one-gr. doses of Tartar Emetic during the night.

March 10. He was easier all night after the ether, slept tolerably, and perspired freely, but was still very tender at the epigastrium; the pulse 96, but not so full, round, and hard, but more of the irritable, jerking, and wiry kind. The first dose of the last tartar-emetic mixture made him so sick, that he took none afterwards.

Ol. Ricini ℥j; *a drink of Linseed, Liquorice, and Manna.*

In the middle of the day he went into a warm-bath; in the evening he felt more easy, the fever was lessened and skin free; but the pulse was at 100 and stronger. On the 11th he had a relapse of the epigastric pain, which radiated to the space between the shoulders, with *impulsive* palpitation, so violent as to raise the bed-clothes; pulse 100, strong, and particularly hard; pain in the course of the colon, occupying a space as broad as one's hand; stomach and bowels hot.

V. S. ad ℥xxv; *another warm-bath.*

In the evening the pulse was lower and the strength was somewhat depressed by the bleeding, but at 8 o'clock the pulse got up to 100, with a hot skin, and the palpitation was as inordinate but not as strong as before. He had pain in the left chest again, particularly about the seventh rib, but the pain and palpitation came on in paroxysms, and occurred not only between the epigastrium and shoulders, but at the back, behind the abdomen.

A 5-grain Calomel Pill with 3 grs. of Opium, and a ℥vi *Fever Mixture, with* vj grs. *of Tartar Emetic,* xviij grs. *of dried Squill, and* ʒss *of Powdered Colchicum: two tablespoonfuls for a dose every hour during the night, if worse.*

On the 11th I found that he had slept after the calomel and opium, but not without consciousness of pain; and, this morning, he still felt pain of præcordia and epigastrium; pulse 96, less fever, cooler skin; bowels not opened; disposition to expectorate. A good deal of *bruit* and diffused pulsation, concealing the respiratory murmur in the left chest; *râle crepitant* over a small space of the left chest; *right chest,* respiration more distinct; quite sonorous, and like a mill, above the clavicles and in the armpit.

Dry cupping at the precordia; xx *leeches after the removal of the glasses; and warm-bath; a black dose; to inhale vinegar and water during the day.*

He fainted for *the first time* in the bath, after the leeches, and the pulse became imperceptible, but, in the evening, it rose again to 104, and he complained of a spasmodic pain of an excruciating nature passing from the loins to the angles of the scapula, but short in duration; no pain of heart or chest; 0j of frothy white mucus expectorated after the inhalation.

Gr. iij *Calomel, and* ij *of Opium, at bed-time.*

During the 12th of March all was well, except occasional spasmodic attacks; pulse 96, softer, and more compressible; the heart in a flurry and flutter; found arrow-root and milk lie heavy, and tend to set the heart going again; and judged that the least stimulus would excite increased motion of that organ, and fever; weak in the loins; great expectoration of frothy mucus.

jss ♏ *Hydrocyanic Acid, with Ether, three times a day: perfect tranquillity.*

March 12 and 13. Free from pain, except in getting out of bed, when the fluttering of the heart returned, with a sense of heat in the precordial region; he complained of violent beating, but it was not

perceptible to the hand, and I suspected that it consisted in morbid sensations about the organ, after severe diseased action; some sleep at night much interrupted by dry cough. On the 13th calm, but affected with stitches, and sense of soreness and heat in the scrobiculus cordis and region of the heart, and incapability of lying on either side; respiratory murmur more clear, and distinguishable from the *bruit* of the heart, which had confused and overwhelmed it in the left thorax; the crepitation had nearly disappeared; the heart's pulsation, which was noisy below the clavicles on both sides, and particularly blowy below the right clavicle, not now very distinct in the right thorax; the respiration of right lung not very audible lower down than the clavicle and axilla; pulse 74 in the morning, 84 in the evening. His respiration in health is very quiet on the right side. Free expectoration during the night, with constant cough.

Hydrocyanic Acid in Almond Emulsion, alternated with a grain or two Sulph. Ferri c. Opio to steady the heart's action, and Compound Mere. Liniment and Tartar Emetic over the precordia.

During the 14th of March he was free from pain, except paroxysms of spasm ascending from the lumbar spine to the neck, and affecting all the muscles and skin of the back, first on both sides, and then on one side of the spinal column, which was accompanied with a sense of great heat at the precordia and chest, but without palpitation; expectoration had not been reproduced by cayenne inhalation, but came on spontaneously in the evening; no respiratory murmur at the centre of right chest, but blowy under the right clavicle and axilla; pulse 70 *mane*, 74 *vespere*.

Dry Cupping; xxv gtt. *Liq. Opii Sed. and Ether.*

On the 15th I found him sitting on the drawing-room sofa; the spasms had ceased after bathing and the ether; a few chest symptoms and general debility left; pulse 80 and above, and full. *On the 16th and 17th et seq.* he continued to get better; free from symptoms about the heart and chest, except weight and tightness at the sternum, when he leaned forwards.

Sulph. Quin. and Sulph. Ferri aa. gr. iij, *with a dose of Dec Aloes Co. twice a day.*

He went to Fennesford Priory, and convalesced rapidly, except that he was affected occasionally with spasms of the precordia and lumbar muscles, which were relieved by dry cupping and laudanum in one-drachm doses (April 25).

Second Attack of Inflammation about the Heart, May 29.

Mr. Gwynne's second attack opened with a series of nervous symptoms of an anomalous character, and without any affection of the heart, except occasional palpitation. These symptoms were, difficult articulation, irregular and difficult motion of the tongue, and drawing up and partial difficulty of moving the upper lip. When he rose in the morning and tried to speak, he found the action of his tongue and lips like that of a person who had been exhausted by talking, and the speech sometimes like a person's in the melancholy and affecting state of intoxication. He had been a somnambulist before, but now became more subject to somnambulism, and was unconscious of having been led back to his bed, and of all that had happened, except the purport of the dream, which excited his imagination. In the day he felt himself liable to reverie and absence, with occasional feelings like inebriation, with throbbings and twitchings under the left eye and eyeball. He had had an attack of a similar nature some years before, when he was first bound to the drug trade at Newport. Dr. Morgan Thomas attributed the symptoms to disordered action of the brain and nervous system, and treated it with purgatives and change of air. This gentleman, who met with an untimely fate, rose solely and wholly by mental superiority, which is next to a miracle in the country, for, in this part of the country at least, the *name* of talent is generally cut and dried, bought and bespoken, for a doctor of some sort, by the domineering influence of property and interest, the venal puffing of the "*fagged*" and the bribed, the base arts of "*scogging*," and the strenuous employment of all the despicable means familiar to the worst part of human nature. Mr. G. then went to his father's farm, and recovered his strength and general health.

I put him on a course of James's powder, colchicum, and opium, at night, and of comp. decoc. aloes, with tartar emetic, liquor potassæ, and infusion of gentian, in the day, for I am of the opinion of Dr. Coley, of Cheltenham, who was a pupil of Abernethy, and has followed out his master's principles with more therapentical skill than the teacher himself, that, if those remedies, which put the constitution into good order, do not remove a disease, they are the best preparatives for such particular remedies as alternately will. The effect of the above agents was that the nervous affections left him by the 10th of June.

But on the 15th of June, the palpitation, which never left him, increased, and became violent on going up-stairs, and on getting out of bed in the morning, with an equal degree of pulsation in the right and left chest, and particularly the right mamma, a sense of oppression and constriction at the precordia, as if a cord were tied round the chest, and girt him in front, a dull pain under both clavicles, and soreness on pres-

sure; also soreness between the left intercostal spaces; shooting pains at the back of the scapulæ; pains of chest increased by the procumbent position, the horizontal position even being uneasy, and the recumbent the only posture in which he found ease; throbbing carotids, occasional flushing of face; sickness from palpitation; no cough; no bellows murmur; chest resonant on percussion; no undulatory motion; respiration everywhere very inaudible; tongue foul; pulse regular.

Digitalis gr. j, *Dried Squill* gr. iv, *twice a day, and Digitalis endermically applied on a blistered surface to the chest. Diet simple and small in quantity.*

These agents, like most other medicines, had little or no effect on him. He had fifteen teeth in the lower jaw, and was cutting one with inflammation of the gum of the first canine tooth. He had fourteen in the lower jaw, and one molaris coming through. I removed this source of cerebral irritation by lancing the gums.

On the 23rd June, the pulse rose to 135, with violent pain in the right thorax, increased tumult of the heart and anomalous symptoms about the head. He was bled again on the spur of his own feelings, by Mr. Mansford, to 0ij, as usual without syncope, or scarcely any diminution of his muscular powers. After the bleeding he was taken home to Aberhale. In the evening the pulse rose again, and the heart fluttered as usual after great blood-lettings.

Saline draughts with Tart. Emet. and Vin. Colchici. Night draught, with Liq. Opii Sed. gtt. lx, *and Tr. Valer. Amm.* ℥j, *to ease the precordial and epigastric pain and procure sleep.*

He was better the next day, and the heart so quiet that he walked round the farm with me.

On the 25th June, I ordered relays of leeches to be applied for two days, four at a time on the precordia, and four on the venous trunk of the instep, to keep up a constant oozing of blood.

The epigastric and precordial pain for which the leeches were applied was sometimes attended with a rolling of flatus from point to point of the stomach and duodenum, particularly after *hot* nutriments, which incrusted the palpitation.

Three grs. of Pil. Hyd. with two grs. of Musk, with the Opiate Valerian draught at night; to confine himself to an albuminous and farinaceous diet, but not to abstain from exercise on plain ground unless he is worse after it.

The chest became less painful, but the pain of precordia caught him when he erected himself and stood with his chest forwards, the heart continued to palpitate with the bird's-wing flutter, the mind wandered, the pulse was 100 and irregular, and the tongue white for a few days. But, on the whole, he got progressively better after the leeching, and the long rest procured by the opium, with tranquillity of mind after the removal of a cause of anxiety, free exercise, and an improved state of stomach, he bettered till the end of June, but the palpitation still continued, and extended at one time to the thoracic, at another to the abdominal aorta. In July I talked over the case with my eminent friend Mr. Selwyn, of Ledbury, who considered that it "might be of a neuralgic nature, as many regard angina pectoris," and suggested anti-neuralgic remedies. I gave him, therefore (1st July), carb. ferri * in great quantities, and afterwards sulphate of iron and quinine. After this course, using simple diet, changing the air twice, refraining from occupation, observing regular exercise and early rising, and going to bed, and keeping cheerful company with an easy mind, the palpitations diminished very much, but came on every night, and, lastly, all night long; I therefore prescribed (20th July) *Soda and Hyoscyamus, with Bitters and Rhubarb*, which is a usual remedy with me for nervous palpitation, and extremely successful. He took this combination through August, and became free from palpitation both by night and day, except after ascending acclivities or mental excitement. He soon got into excellent health, swam the Wye to try the heart, with greater exertion than in health, and found the palpitation less violent than that of a friend who swam with him, and who had nothing the matter with him. He then returned to business.

Third attack of Pleurisy, Nov. 19.

This attack was preceded by excessive ache in the site of a decayed tooth, thumping carotids, headache, symptoms of cold, and pain of right chest when he stooped, and occasional spasmodic symptoms about the heart. On the 19th the toothache left him, not to return till after this fresh seizure was subdued, and he was affected by stabbing pain upon inspiration in the right chest. As I was doubtful whether the attack was nervous or pleuritic. I ordered him three-grain doses of hydriodate of potass, with ether and hyoscyamus, every three hours during the night.

On the morning of the 20th, the disease assumed the real character, which it bore throughout, of fixed and permanent pain felt upon inspiration in the right chest. This pain extended from the epigastrium and lower part of the sternum, in the course

* Dr. Elliotson has lately prescribed the Precip. Carb. Ferri, and mustard cataplasms, for a young lady, who is also in consultation with myself for hypertrophy and dilatation.

of the boundary ribs of the right chest and diaphragm, and thence upwards in the course of the right side of the sternum, and backwards under the right scapula to the attachments of the pleural ligaments, with occasional shooting pains through the right mamma, and pain in the course of the trachea and œsophagus in swallowing, but not as if seated in those parts, but if excited by disturbance of the contiguous pleura. The right lung felt as if girt round, and the respiration consequently confined and painful. The brain was wandering and greatly disturbed; the taste vitiated; tongue brown in the centre; the pulse 84, hard and small in circumference. During the previous night it was irregular and intermittent. Slight impulse of the right and left ventricles; on the second day none at all, except when he was moved, but beat quicker than that of the pulse at the wrist; no bruit. Could only lie in the semi-recumbent position. The chest was resonant at first every where, except over the left ventricle, where it was *mat*. The respiration, which is naturally soft and quiet with him, was inaudible, or like a confused murmur, except under the left clavicle, where it was blowy.

V.S. to ʒx, *without syncope; half-grain doses of Tartar Emetic, with* 15 gtt. *of Tr. Digitalis every third hour.*

In the evening, the pain in the chest was still great, and the brain wandering.

Twenty Leeches, which bled till seven in the morning, James's Powder and Calomel six grains of each.

On the 21st the respiration was easier, the pain much abated, and the pulse, though 96, not cordy. The sound on percussion was *mat* across the precordia, sternum, and bottom of the right chest; the respiration inaudible at these points, but audible, though soft, elsewhere; heart not more excited than in any other case in which irritation exists in the neighbourhood; pain very sharp under the right scapula only.

Cupped to ʒxij *under the right scapula; Tartar Emetic increased to one-grain doses, because it had had no effect, given in the Polygala mixture.*

Syncope, vomiting, intolerably nauseating expectoration, and free perspiration, were now produced, after which he had an excellent night's rest, and rose on the third day free from every vestige of the disease except soreness where the pain had existed.

Remarks.—The grave nature of this attack of another serous membrane, was evinced by the disturbed state of the brain, and brown appearance of the tongue. Every man has his own description of pleurisy; the symptoms in this instance correspond to Dr. Parry's. "No pain," says Dr. Parry, "in the breast or about the heart, but in the epigastrium and below the cartilages of the ribs on the right side; the expectoration differently coloured and often tinged with blood; no wheezing; no labouring to bring up phlegm; no hoarseness; breathing weak, and short, and low; no auxiliary muscles of chest or shoulders called into use, which usually occurs when persons have the bronchial cells obstructed," but "the symptoms of pleurisy are various." The nausea and expectoration came on after the tartar emetic, but not till the third day, when the latter usually occurs naturally and critically.

Fourth Attack, or Pericarditis (?) on the 14th of January 1836.

This was a very different attack from the last, and different in many symptoms from the first and second attacks of the heart.

He had premonitory symptoms of another attack for some days, and on the 14th of January, they took the form of a sharp severe pain along the left arm, an occasional shooting pain through the left nipple, another pain passing suddenly from the loins towards the heart; a feeling as of a plate of fire, which he could cover with his hands, within walls of the left chest; palpitation, but not constant; no disturbance at night except that he could not lie easy on his left side; pulse hard and rather irregular. Before this attack, and when he was what is called well, he had been getting plethoric, or what he called "full again." His heart sometimes gave him note of warning by two or three strong and sudden thumps against the walls of the chest, after which its action would be as usual. He had also had a lurid appearance, with swollen face, and puffing round the eyes. I ordered him to take the combination of hydriodate of potass, hyoscyamus, digitalis, and tartar emetic, which lowered the action of the heart so powerfully and immediately in Ann Howls's case.

On the 16th of January the symptoms evinced a tendency to increase; at one time he felt as it were a flame of fire flying up the chest in the region of the heart, and at another time as if the heart were bathed in boiling fluid, with pain and beating of the heart, backwards, under the right scapula; fulness and tightness of the chest; palpitation, particularly at night; pulse 90 and upwards, irregular and intermittent; mind and particularly the memory disordered. The medicine had had no effect. *(Repose, rigid diet.)* On the 20th he went to his aunt's to lie up. The palpitations were very prevalent during the night of the 19th, and were of the nervous as well as the plethoric character. He was now cupped to ʒx under the right scapula, and I persuaded him to walk afterwards with me to Goodrich and back, about four miles, and he went to bed rather better than worse for the exercise. (*To continue the drops, and use the shower-bath night and morning.*) On the 21st he com-

plained of pain of left arm again; shooting pains about the heart, and under the left axilla at the angle of the scapula; tightness all round the chest to the precordia, with an oppression as if for want of room in the chest, and sighing to relieve the breathing; bird's-wing flutter occasional (for it comes and goes like the pain of left arm); constant pain within the ribs, below and opposite to the left ventricle, increased by pressure; incapability of lying on the left side; no cough; no syncope; some sickness from the drops after the shower-bath; lividity of face and change of complexion.

Large blisters; to continue the shower-bath. To take 1½ gr. *Tartar Emetic;* vij grs. *of Hydriodate of Potass;* v grs. *of Ext. of Hyoscyam.; with the Tinct. of Digitalis, Squills, and Wine of Ipecacuan, aa.* gtt. xx *every two hours.*

On the 22nd the drops made him vomit, for the first time after taking tartar emetic for several days; the sickness continued all day; the blister produced immense irritation and discharge through the night; slight palpitation at the beginning of the night and in the morning; merely conscious of fulness of the chest and pain about the heart. Ordered to walk out in the day on plain ground. On the 23rd he continued the drops. The nausea caused hip, and plenty of nervous nonsense, but the pain at the heart, under the scapula, and along the left arm, and the constriction of chest, had all disappeared.

24. Jan. No pain to-day again, but palpitation still, and painful decubitus on the left side. The pulse before the shower-bath in the morning 90, immediately afterwards 70, a reduction of 20 beats; it varies, sitting in the same position, from 90 to 70 in an hour, and is raised to 100 by walking, but it excites no palpitation; now 88, but indistinct. Great nausea and prostration all day yesterday from two doses of the medicine. On the 25th he experienced nothing except palpitation, when he lay on his left side. On the 30th of January there came on an excessive flow of urine, and stimulation of the kidneys and bladder from the medicine; swelling of face gone down; he walks considerable distances without palpitation, except on going up stairs or hills. He has returned to business, and is convalescent. By observing a low diet, refraining from every drink stronger than toast-and-water, abandoning cigars, rising early, and taking considerable exercise, he is again in health, except that he cannot lie on his left side without palpitation. (Mar. 1.)

On the basis of this case and Ann Howls's acute attack I might make some future remarks on the diagnosis of pericarditis.

Causes and Diagnosis.

I tried this case by its general history and causes, when I was commenting on the similar acute attack of Ann Howls. (*See Lancet, April* 2, 1836.) In both cases, I have stated that the predisposing cause was an excess of nutrition and sanguification from the most moderate quantity of food. This excess was favoured by change from out-of-door life in country situations, to confined in-door employment in towns.

Howls lost, during the acute attack at Cheltenham, 100 ounces of blood! What was the case with Mr. Gwynne before the second attack of May 29? "By Heaven, Doctor," said he some days before, "I feel I am making too much blood again; my veins look sometimes ready to burst, and I feel as if I had a fire all round my heart, or as if my heart was bathed in a boiling liquid." This was after the acute attack in March, and after he had lost 90 to 100 ounces of blood in five consecutive days. The force of the circulation and of the heart's contractions was shown frequently in Howls by the blood flying up to the ceiling; in Gwynne, by its spinning across the breadth of a middle-sized room; and not only by the distance to which it was propelled, but by his never fainting after the 36-ounce bleeding in the first attack, and by his not fainting indeed at all, until he was put into a warm-bath to bleed from a score of leech-bites. Just so after other great bleedings. Add to this, that one and two grain doses of tartar emetic, with several grains of powdered colchicum, and other depressants of the same potent class, produced no effect on the stomach or the heart in the first and second attacks, and I have enough to warrant the opinion that the *quantity* and *force* of the circulation were excessive, whilst the *quality*, in respect to the excess of fibrine, was such as to dispose to inflammatory action.

Well, then! I look upon it in Mr. Gwynne, as in Ann Howls, that the exciting cause of the three acute attacks of the heart, was accumulation of blood in the cavities of the heart, whether those acute attacks consisted in inflammation of the external serous or internal tunic of the heart, or congestion of that membrane and substance of the heart. The second attack was a mild degree of the first; the third resembled chronic pericarditis.

But in his case, as in hers, I do not think that simple plethora and over-excitement of the heart by blood alone were the sole predisposing and exciting causes of the heart's disease. I think that the plethoric condition of the heart accompanied that condition of the constitution which is called "nervous," in other words, that the heart was acted upon by the blood in consequence of his being of the nervous constitution. And I think also that the heart was liable to be influenced in him by the stomach or the mind through the nervous system; or by

the nerves of the heart in a peculiar state of irritability independently of the mind or stomach; and on the other hand, that the brain and nervous system were liable to be reacted on in turn by the heart and nervous affections to be thence produced. "I find the blood," he says, "very soon flow to the head after the heart becomes affected, and *then* I do not feel so much of the pain about the heart." Suffice it to say that I see three mixed and combined causes in these two cases, vascular engorgement of the heart, general nervous irritability, and perhaps particular irritability of the heart itself, influenced by the mind and stomach. If so, the palpitation was of the mixed plethoric and nervous character. The second attack of May 29th, and the pleuritic attack of the 14th November, coincided with tooth-cutting and the cerebral excitement produced by it, but I regard this circumstance as merely a coincidence. The determination to the head, somnambulism, affection of taste, and various anomalous nervous symptoms, were produced by over-excitement of the brain and nervous system, and, perhaps, irregular distribution of nervous influence.

Treatment.

I need say little of the blood-letting after Ann Howls's case. I was authorized, upon established principles, in taking blood "as far as the patient's strength would admit of it, after forming a proper estimate of the marks of general plethora, and particularly of the signs of an accumulation of blood either in the heart or lungs, whether there was any organic affection or not" (*Dr Macintosh*); and after forming a proper estimate of the proportion between the clot and the serum. (*M. Andral.*) But knowing that "excessive blood-letting or spontaneous hemorrhage, and other extenuating causes, will often excite preternatural quickness alone, which will diminish in proportion as inanition and other attendant circumstances are diminished," I was taught not to estimate "the degree of the heart's action by the quickness of its motion, or by its strength, but by the two taken together. (*Dr. Parry.*) I was bound also by what my own observation has discovered as to the degree of disordered nervous action which may be combined with accumulation of blood in the heart in these cases, to adopt a special and separate treatment of the nervous symptoms at certain periods of the case, and so avoid a dangerous excess of depletion, when sedatives and antispasmodics would suffice.

It calls certainly for all the powers of one's judgment to determine how far one ought to carry bleeding not to knock the patient over by too much depletion on the one hand, or to incur the risk of transition into chronic inflammation, effusion, adhesion, and organic disease of the heart and its valves, by stopping short of the needful quantity on the other. Professor Alison, an amiable man and first-rate clinical physician, observes that "increase of dyspnœa in rheumatic pericarditis is apt to bias the practitioner in favour of continual bleeding, but the pulse, in such cases, is no criterion, for it may beat *stronger after the acute symptoms have subsided.*" (*MS. Notes of Clinical Lect.*) True it is, that the pulse *may* beat *stronger* after venesection. I was guided in repeating the bleedings more by the pain than the pulse. Syncope also is no criterion, for "venesection has been employed without producing the smallest disposition to syncope, and its causing syncope has been a condemnation of the practice." (*Dr. Home.*)

In the last attack I abandoned blood-letting entirely, notwithstanding the precepts of Sangrado are the written law in these cases, and as imperative as an act of parliament; and notwithstanding no adequate substitute being known, I having held myself an opinion, that it has not been carried far enough in such cases in this country. For, when I saw that the system of "keeping the heart in a state of depletion," as Dr. Parry lays it down, was called for by three or four acute attacks within little better than the space of nine months, my mind began to revolt from the frightful repetition of these sanguinary effusions, and to look about for other means to procure the same end, if such means were to be found. Frequent and habitual depletion can only be justified upon the plea of choice, by tyrant necessity, between two evils, an exceptionable remedy, and a still more dangerous disease. I saw, in this case, that it was but a temporary remedy, with the certainty of redundancies following the deficiencies created by it, and with the chance of ultimate effusion, to which it gives a tendency.

I remembered a case in point which was baptized an "Affected Cordis," and came into the Royal Infirmary, Edinburgh, under the late Professor Duncan, jun. The symptoms were, heavy pain, sense of weight extending to the axilla, constriction, sinking, and a gurgling noise in the region of the heart; violent palpitation in lying down on the right side removed by turning on the other, the easiest position being on the knees, with the head bent forwards, and the trunk rested on the folded arms; rest *prevented* by a *full meal* (!), and all the symptoms *increased by spirits* (!!). He first experienced a sense of heaviness at the cardiac region, accompanied with frequent, deep, and distressing sighs, violent headache, and sinking-like fainting. He had tried a course of blistering and bleeding over the cardiac region, with medicine, light diet upon little exercise, for eleven months, before he came into infirmary, and

had found but small relief after each bleeding. While he was in the infirmary, the loss of seven pints of blood, confinement to bed, digitalis, and tartar emetic ointment, produced no benefit. He then took the hydrocyanic acid, the aqua lauri cerasi in drachm doses, and elaterium, and was dismissed "relieved."—(*MS. Notes.*)

In this case, then, nearly a gallon of blood had been taken to no efficient purpose, and benefit had been derived by the substitution of a sedative principle of treatment. A fact like this was not lost upon me. When I was at Cheltenham, in April 1835, I saw Dr. Samuel Dickson, with whom I associate the recollection of contemporary pupillage, and the impression that he is a man of genius capable of developing new and superior principles of practice. He read over to me a lecture on the heart and circulation, depreciating the efficacy of bloodletting even in acute inflammations, and glancing at other more safe, and quite as effectual, methods of treatment. So strong is the force of education in medical orthodoxy, that I looked upon these notions of running a coach and six through the articles of the true faith, much as Sangrado, "Qui croyait que les malades ne mouraient que faute d'avoir assez tre et d'avoir été assez saignés," regarded "la presomption, l'imperitié, et le brigandage de ces novateurs ignorans, ces singes de médecins," who made "consister toute la science de la médecine a savoir preparer des drogues, chimiques, le kermès et l'emétique." Touching the scepticism of orthodox men and common routinists, there is, as M. Magendie remarks, an old proverb and a just one, "The truth is not always probable" "*le vrai n'est pas toujours vraisemblable*," for remember, Galileo was the laughingstock of his age!" "Cannot you find some adequate substitute for the little instrument of mighty mischief?" was a question put to me by Mr. Hopkins, a clever undergraduate of Glasgow, after Georgeine's second attack. "How," I asked, "am I to stop a mad bull with a bare boukin?" I had seen in the two first attacks, what knock-down doses of digitalis, colchicum, squill, and antimony, had been taken without the slightest effect, and the partial benefit which the liq. opii sed. and hydrocyanic acid had produced. I had seen everything done, for convenience' sake, to dispense with bleeding at the onset of the second attack, but nothing else then known to me would control the symptoms, and to blood-letting I was driven *nolens volens*.

But combining all the foregoing points of reflection favourable to a change of practice, after the decisive blow which I had struck in Ann Howls's case, by a combination of the narcotics and antimony with the hydriodate of potass, I determined, though far from sanguine of success, on treating the last heart attack of Mr. G. with the same combination. That particular combination failed, but I have shown how one much stronger succeeded with no more loss of blood than ten ounces by cupping, and besides, I could show I have succeeded in seven cases of pulmonary inflammation by the same means, having taken either very little or no blood at all. The immense diuresis, which resulted from the remedy prescribed on the 30th of January, probably carried off an effusion into the pericardium, of which certainly there were signs.

Knowing the facts *that* palpitation, if of the *nervous* kind, is less troublesome during exercise in the open air, than at other times (*Dr. Mackintosh*); *that* exercise produces a more equal distribution of blood, by diminishing the quantity by perspiration, and exhausting nervous irritability, I said, "Take plenty of exercise on plain ground, as far as the strength will admit, and so far as it does not increase the paroxysms of palpitations. (*Dr. Parry.*) But mind, it should be on level ground, moderate in pace and distance, avoided upon a full stomach, and not commenced till the action of the heart have been lowered." On these principles I walked Mr. Gwynne out myself four or five miles on plain ground on the third occasion, as I had done on the second after the 45-oz. bleeding, with advantage. Should palpitation be purely plethoric, or more plethoric than nervous, "that muscular exercise, which returns the blood by the veins into the heart with *more than the usual momentum*, excites excessive action in that important organ." (*Dr. Parry.*) Howls brought back temporary palpitation, not by walking, but by walking *too far*, and getting *wet feet*; for disregard of temperature will defeat medicine and everything else. Mr. Gwynne experienced strong palpitation, whenever he strove against the collar, or attempted walking before the high action of the heart was subdued. Out of thirty heart cases recently under my care, I could select other examples of the truth of these principles.

Mr. Abernethy, though he was candid enough to admit that functional disorder of the heart might have a cerebral and pulmonary, as well as a stomachic origin, went so far as to say, that disorder of the digestive organs would cause hypertrophy of heart. (*MS. Notes of Lect.*) Certain it is, that irritation of the stomach and intestines will increase existing symptoms, or cause them to reappear and augment the distress of respiration almost to asphyxia. (*M. Andral.*)

In Mr. Gwynne's attacks the heart was now and then disturbed by flatulency of the stomach and colon, though he was limited to a sick diet; in M. Andral's cases we find that disturbance followed the introduction of "simples boisons" and "potages" only. The stomach, indeed, is much disposed to be

affected in heart cases. (*Prof. Home.*) In Dr. Parry's fourteenth case there was great inflation of stomach, but the heart was not relieved by eructation. Everything that lies heavy or causes flatulency has a tendency to set the heart going. The irritation of tartar emetic or digitalis may have the same effect, when it excites the mucous coat of the stomach.

Dry cupping and the shower-bath I used, in consistency with the indications of combined disordered nervous action. The ancient and not ineffectual expedient of dry cupping gave relief for three or four days at a time. I have tried it in some other of my heart cases, for soreness of chest, and, in nervous cases, for nervous pains, with the same temporary effect. In the epigastric irritation of the case, large doses of ether and laudanum were useful.

As a preventive plan I enjoined abstinence from all causes of irritation and fulness. Every such patient must observe the Temperance Society's system, abandon cigars and spirits, take to water-drinking and a meagre diet, rise with the lark and lie down with the lamb, and use as much exercise as possible. Tobacco, if consumed to a great extent, is enough to give a man a disease of the heart if he is disposed to it. I once saw a serious case of heart disease in the Royal Infirmary, Edinburgh, under Professor Graham in one John Maclauchlin, in which it was the suspected cause of all the symptoms. A few whiffs of a cigar, tried purposely, brought back palpitation in Ann Howls. Young men of the middle class refrain now from the vulgar resorts of smoke-pipe company; but, shunning one bad habit, they fall into another, which is, the abuse and not the use of cigars.

But, after all, we may prescribe, like Dr. Pedro Positive, "fasting upon fasting," or as Sancho Panza calls it, "killing a man by inches with hunger," and we may nevertheless find cases in which plethora and accumulation will ensue again and again, unless the patient quit towns and confinement, and betake himself to the country and a life of physical labour capable of exhausting the morbid plenitude to which he is disposed. This has been seen in Mr. Gwynne since the last attack, though he kept strict to the above rules; but lately he found it expedient to apply fifty leeches behind the ears, at one application, for headache caused by plethoric palpitation. While the brain was loaded the heart ceased to palpitate; but the increased action of the heart was unmasked as soon as the head was relieved. Howls's case and his, however, on the whole, have preserved a steady amelioration, with only such slight ups and downs as must be expected after deep maladies.

Ross, May 5, 1836.

THE LANCET.

London, Saturday, May 21, 1836.

MEDICAL CORONERS.—In addition to the election of a medical coroner for the borough of Wigan, in Lancashire, we have also to record the election of a medical coroner for the borough of Colchester. A short time since, the new corporation of Colchester elected Mr. CHURCHILL, the well-known and able author of the work entitled "Medical Botany and Vegetable Toxicology," coroner for that borough. He was opposed by a professor of law, who had held the office under the old corporation. The latter gentleman obtained four votes. Mr. CHURCHILL obtained fourteen. In speaking last week of the election of Mr. ROGERSON, we should have stated that he was opposed not by one only, but by two attorneys, who, at last, finding union indispensable to enable the law to cut any figure at all in the contest, united their forces. Yet Mr. ROGERSON beat them by a majority of six votes. The choice redounds as much to the credit and discrimination of the electors, as the confidence thus reposed in him confers honour on Mr. ROGERSON. We hope that these examples will induce the medical profession to seek to fill vacancies in the presidential chair of the Coroner's Court, wherever they may occur, especially in those places to which grants of permission to hold a separate court of quarter session, are given under the new Municipal Corporation Act. We fear that the remuneration will not at first be adequate to the scientific services rendered by medical men as coroners, but when once the custom of regarding a sound knowledge of medicine as an essential qualification in the Coroner, has become established, either throughout the country, or in particular places only, the electors will see at once the policy, the wisdom, and the justice, of properly rewarding the services of that important officer; and

the competition which at present exists between mere law, and sufficient law united with more than sufficient science, will merge in an honourable struggle between qualified men, who, *under an improved condition of medical government*, will never for a moment struggle to obtain office on that discreditable and degrading plea which consists in a willingness to *fill* the vacant post at a lower remuneration than will be accepted by a rival candidate.

We this week publish, under the title of "Observations on the Tubercular Meningitis of Children," a more interesting and valuable memoir than any which has for a long time appeared among the records of medical science. The paper, which will be found at page 263, comes from the pen of that sound and acute observer of pathological facts, Dr. PETER HENNIS GREEN, a young though deeply experienced physician, who has for some time past been most honourably known in a circle of private friends for his learning and abilities, and to the professional public by a few acknowledged papers, inserted at long intervals in the pages of this journal, and, within the last few months, more especially, by a series of careful observations made in the *Hopital des Enfans Malades*, Paris, and published in the two last and present volumes of THE LANCET.

Among other diseases of children which have obtained the attention of Dr. GREEN, is that disease which generally passes under the name of "hydrocephalus," some cases of which, where he took the opportunity of making post-mortem examinations, are detailed in Numbers 643, 45, 50, 63, at pages 492, 573, 780, and 229, of this Journal. One of the chief pathological facts sought to be established in the publication of those cases, Dr. GREEN thus points to at page 233.

"We are prepared to prove (and shall take an early opportunity of establishing) that the disease commonly called 'acute hydrocephalus' is accompanied in a very great majority of cases, by an inflammation of the meninges, with the deposit of tubercular matter, in the form of granulations, or cheesy matter. We therefore prefer abandoning the term 'hydrocephalus,' because all physicians of the present day are agreed, that the effusion forms no essential part of the disease, and adopting in its stead, at least for the form of which we treat, a denomination which has the advantage of denoting the pathological change, and its most striking character. The name 'tubercular peritonitis,' has long been admitted into the language of our science, and the time is probably not far distant when the term 'tubercular meningitis' will assume a place by its side."

The opportunity which Dr. GREEN had contemplated, he has thus early seized, and in the paper now before the profession, he has fully developed his observations and views on the disease. Having, in the papers already printed, throughout adopted, as the reporter of the cases, the plural of the personal pronoun, we have been unwilling to disturb the arrangement by altering the manuscript of Dr. GREEN, although it is presented to our readers in a somewhat different form from that which the reports themselves had assumed. It therefore stands throughout as received from our correspondent.

The paper contains so ample a development of the author's opinions and illustrations, that we are left no room to allude farther to its contents in this place. We exclude, indeed, many articles, in order to ensure space for the insertion of the whole of the paper in one Number. Long as is the memoir, it will be read not only without weariness, at a single sitting, but with a degree of pleasure which the clearness and simplicity that throughout distinguish its contents, cannot fail to ensure for a highly scientific original essay.

NOTWITHSTANDING the apparent openness and liberality of the public medical institutions in Paris, and the great reputation of certain distinguished hospital functionaries in that capital, a great deal of *hole*-and-

corner surgery is performed there. There is, in fact, no independent organ of the medical press to hold up the delinquents to public indignation, and the censure of their contemporaries. The following example, not only of *hole-and-corner* surgery, but of the most barbarous and culpable ignorance of the principles and practice of midwifery, has just come to light by the *indiscretion* of a person to whom the case was communicated; we publish it for the reflection of our readers, without any further comment:—

NEW METHOD OF APPLYING THE FORCEPS IN CASES OF DIFFICULT LABOUR.

By M. Roux, *Member of the Institute, and Surgeon-in-Chief to the Hotel Dieu.*

On the 29th of April, 1836, Anne Leblanc was brought to the *Hotel Dieu*. This woman, much deformed by rickets, three feet eleven inches in stature, was in labour since the evening before at seven o'clock; a former child had been extracted with the forceps after a difficult labour of twenty hours. Slight labour pains were felt for a few days; these became strong on the 28th at seven o'clock, when a midwife was sent for, who communicated the following details of the case. The sage-femme having waited the whole night in hope that nature would be sufficient to terminate the labour, sent for several physicians in the morning; the forceps was applied without any result, and the patient brought to the Hotel Dieu in the following state:—Labour pains violent; membranes ruptured by the former attendants; the labia majora tumefied, and painful to the touch; the vagina very warm and sensitive; the neck of the uterus, lacerated, soft, and thick, presents several fragments, between which the child's head can be felt at the inlet of the pelvis; below, and a little behind the head, is the sacro-vertebral angle, which forms a considerable projection, and prevents the head being engaged in the pelvis. To form a better judgment of the position &c., the interne on guard introduced the whole hand into the vagina, and estimated the antero posterior diameter at two inches and a quarter to two inches and a third. Abdomen painful; uterus inclined to the right side; the least touch makes the patient cry out.

The difficulty of the case rendered a surgeon's presence indispensable; M. Roux was sent for, and immediately came. His first care was to touch the patient, and assure himself of the position, which seemed doubtful; he then proposed to the interne that he should introduce the forceps, but this being declined, M. Roux himself proceeded to the application of the instrument, a manœuvre accompanied with the most violent pain, during which the patient screamed in a dreadful manner, and invoked death to terminate her sufferings. The male branch was got in with a great deal of difficulty; the female branch required still more effort, and was not fixed before the lapse of seven or eight minutes. The forceps being locked, the finger was introduced to ascertain the state of things; the blades of the forceps evidently embraced a round flattened body, the child's head; on the right side the instrument was well placed, but on the left things were not so clear; the finger distinguished, between the blade and head, certain folds and fragments, of a doubtful nature. However, M. Roux commenced acting with the forceps, but after repeated and long-continued efforts was obliged to discontinue; it was now ten minutes to four o'clock, the hour of the concours for the chair of anatomy at the school of medicine, in which M. Roux is judge; he therefore sent for his son-in-law M. Danyau, who (he said) understood these cases better than himself, and went off to the concours, leaving the forceps in the patient's body! M. Danyau, according to one account, refused to come; according to another could not be found. In the meantime, the house-surgeon and agent were informed of the affair, and sent word to M. Roux, that as he had applied the forceps, no one would undertake the responsibility of meddling with the case. The head-surgeon arrived at length, at six o'clock, accompanied by Messrs. Danyau, Dubois, &c. The latter removed the forceps, perforated the head, and proceeded to the extraction of the child, every one present aiding in this part of the operation, and dragging away his portion. The woman died thirty-four hours after delivery.

Autopsy, Thirty Hours after Death.—Antero posterior diameter of the inlet 2½ inches; transverse diameter 4 inches 5 lines; oblique ditto, one 4¼ inches, the other 4 inches. The sacro-vertebral angle does not correspond exactly with the middle of the pubis, but to the left side a little outlet; antero-posterior diameter, 3 inches 1 line; transverse diameter, 4 inches. The uterus is completely above the inlet of the pelvis, and lacerated anteriorly; the internal surface inflamed; the neck, torn into three fragments, is separated from the vagina posteriorly, and at the left side; here the whole wall of the vagina and the bladder are perforated. On the right side, the laceration of the vagina is less considerable, but extends also as far as the bladder.—Boinet, Interne.

MEDICAL WITNESSES BILL.

THE following petition has been placed in the hands of Mr. WAKLEY for presentation to the House of Commons:—

"To the Honourable the House of Commons of the Parliament of Great Britain and Ireland.

"The humble petition of His Majesty's Coroners whose names, residences, and districts, are written at the foot hereof.

"Showeth. That your petitioners, in the discharge of their important duties as Coroners, have frequently experienced considerable inconvenience in inducing proper assistance and testimony from medical men, in consequence of the want of a fund, out of which remuneration could be awarded to them.

"That your petitioners have read the case contained in the petition of Mr. James Baker, surgeon; and also a petition on the subject, signed by Sir Henry Halford, Bart., and 823 other medical gentlemen; and knowing that there are a great number of cases in many respects similar to that of Mr. James Baker, in which medical men have been put to a considerable degree of trouble and expense in preparing for and attending at Coroners' Inquests, your petitioners conceive and submit to the consideration of your hon. House, that for the administration of justice, and the remuneration of medical men, a clear and certain means of equitable remuneration should be devised. Your petitioners therefore pray that your honourable House will enact such a remedy as the case demands, &c. &c.

WILLIAM BAKER, Limehouse,
One of the Coroners for the County of Middlesex.

CHAS. JAS. CARTTAR, Greenwich,
One of his Majesty's Coroners for the County of Kent.

ARTIFICIAL URETHRA.—PRIAPISM.—AFFECTIONS OF THE KIDNEY.

SEVERAL interesting cases were related at the last meeting of the *Westminster Medical Society*. Dr. JOHNSON mentioned two instances of artificial urethra, in which the patients having had retention of urine, suffered the operation of puncture of the bladder above the pubes. One instance was that of an old man aged 70, who wore a canula for a period of nine months, but sank at the end of that time from a complication of diseases; in the second instance the patient had diseased prostate, and retention of urine supervened; a surgeon introduced a catheter as he supposed into the bladder; no urine flowed, and as the retention was of some days' standing, puncture above the pubes was immediately resorted to. For eight years this patient continued to discharge his water by the artificial passage, consisting of a canula and a stopcock, by which means he was enabled to unload his bladder at pleasure. He did not suffer material inconvenience from the apparatus; sometimes he experienced a slight degree of pain in the bladder itself, and he was in the habit of injecting about half a pint of warm water for the purpose of relief, and drawing it off again in a short space of time. Last autumn he travelled a distance of 1500 miles with little suffering; but being desirous on his return to town to have the natural passage opened, a celebrated surgeon was requested to introduce the catheter, he did so as he supposed into the bladder; there was no flow of urine. Since then (last November) the patient had been suffering from chronic inflammation of the bladder, and was now dying from irritable fever; he is not able to retain his water for the space of an hour.

Mr. SMITH considered puncturing the bladder by the perineum was in general the most successful operation of the three modes recommended for relieving retention.

Dr. JOHNSON related another case in which the patient, whom he had attended for some years, referred all his complaints to the bladder, which was always exceedingly irritable; no stone could be detected in it. About a month previous to his death he was suddenly seized with a remarkable train of symptoms, such as great difficulty of breathing, fever, rigors, cough, and intense thirst; the rigors coming on sometimes once, sometimes twice a day. The chest on examination sounded very dull on the right side; respiration was considerably diminished there, and towards the last was entirely absent. He sank under these symptoms, attended with delirium. On examination after death, a large abscess was found attached to the kidney; the abscess had extended upwards and produced ulceration of the diaphragm, and discharged its contents into the right side of the chest; hence the phenomena under which he laboured; the lung was found compressed.

Mr. CHINNOCK mentioned a case of priapism occurring in a widower at the middle period of life, who had since the death of his wife been subject to distressing attacks of priapism, two occurring every night; there was no desire for venereal intercourse. This complaint had resisted every means which had been adopted for its relief. At the suggestion of Dr. JOHNSON Mr. C. agreed to try the effect of counter-irritation by tartar emetic along the spine.

Mr. BIRD had seen a case in which the patient had always complained of very great pain in the region of the right kidney, and

had every symptom of abscess in that organ. After death the right kidney was altogether absent; the left kidney was enlarged, and an abscess had formed in it; he never suffered from pain in that region.

NORTH-LONDON HOSPITAL.

FRACTURE OF THE RIBS, PELVIS, AND SPINE.—RUPTURE OF SPLEEN AND VENA AZYGOS.

THOMAS FARMER, aged 73, was admitted into the hospital on the afternoon of Thursday, May 12, under the care of Mr. COOPER, having a short time previously been thrown down by coming into contact with the wheel of a cart which was heavily laden with gravel. The persons who brought him stated that the wheel of the cart backed upon his side, but did not completely pass across his body. The man was quite sensible but had no pulse at the wrist, and his extremities were quite cold. On examination several of the ribs on the left side were found to have been broken, as well as the left os innominatum, the fragments of which moved loosely upon one another, apparently involving the acetabulum. The left leg was shortened and everted, the trochanter of the same side was much less prominent than natural, and could easily be depressed to a still greater extent, at the same time crepitus being perceptible. The shortening of the limb was readily effaced by gentle extension, but immediately recurred as soon as the extension was relaxed. Warmth was applied to the surface of the body, and some warm tea given. The man died shortly after admission, without recovering from the collapse which followed the receipt of the injury.

Post-mortem Examination.—The ribs on the left side were broken, from the second to the twelfth inclusive, and many of them in two places. The left os innominatum was extensively shortened, and the acetabulum was split in several directions, so that the head of the femur projected within the cavity of the pelvis. The crest of the os pubis on the right side was separated from the body of that bone; a large quantity of blood was effused into the cellular tissue behind the pelvic portion of peritoneum, and between the several muscles surrounding the hip-joint. The body of the 7th dorsal vertebra was broken across, and one of the spiculæ of bone had pierced the vena azygos, giving rise to effusion of blood into the right thorax amounting to several pints. A little blood also existed in the left thorax, and some also in the peritoneal cavity of the abdomen. The spleen was torn in many places, and the left kidney was ecchymosed. A very close stricture existed in the urethra opposite the termination of the bulb, admitting only the passage of a fine wire. The muscular tunic of the bladder was very much hypertrophied; the mucous membrane at the neck of the bladder was rough and tubercular.

COMPOUND FRACTURE OF THE THUMB.—CONVULSIONS.

Frederick May, 15, whilst working in a cotton factory, suffered a compound fracture of the proximal phalanx of the left thumb, from its being entangled in the machinery. The end of the thumb was hanging loose by the flexor tendon; the branch of the median nerve supplying the radial border of the thumb was torn out of its sheath to the extent of nearly three inches. The lacerated end of the stump was removed, and the bone cut across by the bone-pliers. The flaps were brought together by slips of plaster. The boy was ordered to attend as an out-patient.

April 11. Two days ago was exposed to cold and wet whilst executing an errand, and in the evening was seized with rigors, followed by pyrexia, with great pain in his knee and shoulder, rendering him quite lame. He was now taken into the house, and treated with purgatives and salines. Thumb nearly well.

15. Three a.m. The boy was suddenly seized with a very violent convulsive paroxysm, which lasted a few minutes, and was quickly followed by others of increased violence. During the fit his teeth were firmly clenched; face bloated and livid; eyes rolled; foaming at the mouth, and his body bent backwards, so as to form an arch. He was bled to ten ounces, after which he had another fit, though not so violent as before. He had about fourteen fits of the same nature in the course of the morning.

Mr. COOPER saw him at the hour of visit, and considered the fits to be connected with the irritation consequent on the injury of the thumb, and ordered him four drops of laudanum every two hours, and his head to be shaved, and cold cloths to be kept constantly applied.

16. Has had no fits since yesterday afternoon; is quite sensible; has no difficulty of deglutition; complains of great tenderness of the abdomen under pressure; he has passed several stools composed of almost pure blood.

17. Dr. ELLIOTSON saw him and ordered the bleeding to be repeated, and to take 10m of spirits of turpentine every four hours.

18. Is better; less blood appears in the evacuations from his bowels; several small petechiæ have appeared on various parts of his body; legs are hot, swollen, and tender.

20. Feels better; no blood in his stools. Int. medica.

27. Discharged cured.